

STORMWATER MANAGEMENT PROGRAM PLAN

VILLAGE OF ANTIOCH

LAKE COUNTY, ILLINOIS

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SMPP

Prepared by
SEC Group, Inc. an HR Green Company
420 N. Front Street
McHenry, IL 60050
Phone 815-385-1778 • Fax 815-385-1781

Prepared with the assistance of
The Lake County Stormwater Management Commission
333 Peterson Road
Libertyville, IL 60048
Phone 847-918-5260 • Fax 847-918-9826

and

The Village of Mundelein
440 E. Hawley Street
Mundelein, IL 60060
Phone 847-949-3200 • Fax 847-949-0143

and

Bleck Engineering Company, Inc.
313 East Lake Street
Silver Lake, WI 53170
Phone 262-889-2218 • Fax 262-889-2226

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1 Overview of the Stormwater Management Program Plan



Des Plaines River – Lake County, IL Photo by Dave Piasecki

1.1 Introduction

This Stormwater Management Program Plan (SMPP) was developed by the Village of Antioch based off a SMPP template provided by the Lake County Stormwater Management Commission. The purpose of the SMPP is to meet the minimum standards required by the United States Environmental Protection Agency (USEPA) under the National Pollutant Discharge Elimination System (NPDES) Phase II program. Federal regulations through the USEPA require that all Municipal Separate Storm Sewer Systems (MS4s), partially or fully in urbanized areas based on the 2000 census, obtain stormwater permits for their discharges into receiving waters. There are many different types of MS4s including municipalities, park districts, drainage districts, township highway departments, counties and county and state transportation departments (LCDOT and IDOT).

The SMPP describes the procedures and practices that can be implemented by the Village of Antioch toward the goal of reducing the discharge of pollutants within stormwater runoff in order to comply with Federal standards. Compliance with the plan is intended to protect water quality thus contributing to the following amenities:

- cleaner lakes and streams,
- improved recreational opportunities and tourism,
- flood damage reduction,
- better aesthetics and wildlife habitat, and

- a safer and healthier environment for the citizens.

The SMPP addresses the primary program elements for all the Village of Antioch activities, including the manner in which the Village:

- reviews, permits and inspects construction activity within its limits;
- manages the planning, design and construction of projects performed within its limits;
- maintains its facilities and performs its day-to-day operations;
- works toward protecting the receiving waters from illicit discharges;
- provides public education and outreach;
- trains its employees in carrying out and reporting program activities; and
- continually monitors and evaluates the program.

1.2 State & Federal Regulations



Federal environmental regulations based on the 1972 Clean Water Act (CWA) require that MS4s, construction sites and industrial activities control polluted stormwater runoff from entering receiving bodies of water (including navigable streams and lakes). The NPDES permit process regulates the discharge from these sources based on amendments to CWA in 1987 and the subsequent 1990 and 1999 regulations by the U.S. Environmental Protection Agency (USEPA). In Illinois, the USEPA has delegated administration of the Federal NPDES program to the Illinois Environmental Protection Agency (IEPA). On December 20, 1999 the IEPA issued a general NPDES Phase II permit for all MS4s. The General Permit is included in **Appendix 5.16**. Under the General ILR 40 Permit each MS4 was required to submit a Notice of Intent (NOI) declaring compliance with the conditions of the permit by March 10, 2003. The original NOI describes the proposed activities and best

management practices that occurred over the original 5-year period toward the ultimate goal of developing a compliant SMPP. At the end of the 5th year (March 1, 2008) the components of the SMPP were required to be implemented; per the ILR40 permit. The IEPA reissued the ILR 40 permit on April 1, 2009.

Additionally, under the General ILR10 permit also administered IEPA, all construction projects that disturb greater than 1 acre of total land area are required to obtain an NPDES permit from IEPA prior to the start of construction. Municipalities covered by the General ILR40 permit, are automatically covered under ILR10 30 days after the IEPA receives the NOI from the municipality.

1.3 Countywide Approach to NPDES Compliance

The Lake County Stormwater Management Commission (SMC) is a countywide governmental agency created by county ordinance under the authority of Illinois Revised Statute 55/5-1062. SMC's goals include the reduction of flood damage and water quality degradation. Another purpose of SMC is to assure that new development addresses non-point source pollution, does not increase flood and drainage hazards to others, or create unstable conditions susceptible to erosion. To accomplish this, the SMC works cooperatively with individuals, groups, and units of government as well as serving as the corporate enforcement authority for the Lake County Watershed Development Ordinance. SMC enforces the WDO in non-certified communities on behalf of the municipality. The municipality is responsible for enforcing the WDO in Certified Communities. A municipality is considered a Certified Community after its petition is approved by SMC. SMC utilizes technical assistance, education programs and watershed planning to increase public awareness of natural resources and the impacts of urbanization on stormwater quality. In addition, SMC provides solutions to problems related to stormwater and identifies effective ways of managing natural resources.

In 2002, SMC formed an Ad Hoc Municipal Advisory Committee (MAC) specifically to advise MS4s on the NPDES Phase II Permit program. Municipalities, townships, drainage districts, consultants and county representatives comprise the MAC. SMC advised and assisted the MS4s in preparing their NOIs, but is not a permittee as it does not own or operate any sewer systems.

The General Permit allows for MS4s to take credit for activities being performed by a Qualifying Local Program (QLP) toward meeting its permit requirements. The Lake County Stormwater Management Commission (SMC) is a Qualifying Local Program for MS4s in Lake County. As part of their ongoing services, SMC performs some functions related to each of the six minimum control measures. SMC has been providing services under four of the six minimum control categories since it began implementing a comprehensive, countywide stormwater program in 1991. However, MS4s are required to provide additional services for each of the Minimum Control Measures with the greatest effort in the Illicit Discharge Detection and Elimination and Pollution Prevention/Good Housekeeping categories.

SMC sponsors informative workshops and roundtable discussions. It formed the Municipal Advisory Committee (MAC) to receive input on how SMC can best assist local governments during the permit application process and implementation period. Through these discussions, it was decided that each municipality (or MS4) submit its own "Notice of Intent" (NOI) to be covered under IEPA's statewide general permit. However, using the countywide approach, municipalities may take credit for the programs and ordinances developed by SMC as well as tailor specific local BMP programs for compliance with the Phase II rules.

As part of the countywide approach to comply with the NPDES Phase II program, SMC assists municipalities with the following:

- Supports NPDES II presentations to local boards,
- Develops model Notice of Intent (NOI),
- Provides countywide drainage system overview and receiving waters map,
- Provides general 5-year BMP Plan for NOI,
- Develops specific BMP Measurable Goals and program development tasks,
- Serves as a clearinghouse for all support information and acts as a liaison to IEPA and USEPA,
- Supports an on-going Municipal Advisory Committee (MAC),
- Drafts a model of the Annual Performance Report and specific BMP Measurable Goals for the subsequent years, and
- Provides model Illicit Discharge Ordinance language.
- Provides SMPP Template.

SMC countywide services qualify for credit under four of the six Minimum Control Measures. Additionally, SMC developed the SMPP template for revision/adoption by the MS4s. This template is intended to be reviewed, revised and accepted by MS4s within the county and describes a program intended to be in compliance with the ILR40 permit requirements. A general list below summarizes additional SMC services under the 6 minimum control categories:

1. **Public Education and Outreach:** SMC provides, through its Public Information Coordinator, various training workshops, homeowners workshops, brochures, training manuals, teacher/student education, videos, etc.,
2. **Public Participation and Involvement:** SMC coordinates and participates in public meetings and committees, including the Municipal Advisory Committee (MAC), SMC Board of Commissioners, Technical Advisory Committee (TAC), citizen watershed planning committees, Watershed Management Board (WMB), and volunteer support.

3. **Construction Site Runoff Control:** SMC adopted the countywide Watershed Development Ordinance in 1992, which establishes the minimum stormwater management requirements for development in Lake County. The WDO, which is enforced by SMC as well as by certified communities in the county, establishes standards for construction site runoff control.
4. **Post-Construction Runoff Control:** The Watershed Development Ordinance also establishes standards for post-construction runoff control.

1.4 Organization of SMPP

The SMPP identifies best management practices to be implemented in six different categories. These categories are:

- Public Education and Outreach,
- Public Participation/Involvement,
- Construction Site Runoff Control,
- Post-Construction Runoff Control,
- Illicit Discharge Detection and Elimination, and
- Pollution Prevention/Good Housekeeping.

Chapter 1: Overview of the Stormwater Management Program Plan - discusses the format of the SMPP document and the regulations associated with NPDES II through county, state and federal agencies.

Chapter 2: Program Management - discusses the logistics of the Plan. This includes the organization, implementation and responsible parties necessary to achieve overall compliance with the SMPP and Permit. It also identifies how the Village coordinates with other county and state agencies and discusses the legal authority that the MS4s have to implement the Plan components.

Chapter 3: The Program - addresses stormwater pollutant control measures implemented by the Village per the six minimum control categories established by the USEPA:

- Public Education and Outreach,
- Public Participation/Involvement,
- Construction Site Runoff Control,
- Post-Construction Runoff Control,
- Illicit Discharge Detection and Elimination, and
- Pollution Prevention/Good Housekeeping.

Chapter 4: Monitoring, Program Evaluation and Reporting - describes the monitoring, evaluation and reporting procedures associated with the program. The SMPP is a guide created to protect the Village receiving waters from pollution and resultant degradation. This Chapter assists in identifying best management practices and processes that may require improvement and refinement as the document becomes an effective tool.

Chapter 5: Appendices – including forms, references, exhibits and bibliography.

1.5 Watersheds, Sub-Watersheds and Receiving Waters



Des Plaines River

The Village of Antioch is primarily located within the Fox and Des Plaines River Watersheds. There are several receiving waters, tributary to the rivers, which are located within the Village. These streams include North Mill Creek and Sequoit Creek. Lakes and other on-stream bodies of water are also considered part of the receiving water system.

Watershed: The land area that contributes stormwater to one of the four major Rivers in Lake County.

Sub-Watershed: The land area that contributes stormwater to one of the receiving waters tributary to a major River.

Receiving Water: A natural or man-made system into which stormwater or treated wastewater is discharged, including the four major rivers in Lake County, their tributary stream systems and other Waters of the U.S.

The major sub-watersheds and receiving waters are presented on **Figures 1a-c Map of Major Sub-watersheds and Receiving Waters**.

Des Plaines River Watershed

The Des Plaines River watershed originates in Racine and Kenosha Counties in Wisconsin flowing south into Illinois. The Des Plaines watershed in Lake County drains an area of approximately 202 square miles or 129,577 acres. It is the largest of the county's four major watersheds. The topography of the watershed is dominated by a gently rolling

landscape with numerous wet marshy areas. The Lake County portion of the watershed is divided into nine sub-watersheds.

The Des Plaines River watershed wholly or predominantly includes the communities of Arlington Heights, Buffalo Grove, Deer Park, Grayslake, Gurnee, Hawthorn Woods, Indian Creek, Kildeer, Libertyville, Lincolnshire, Lindenhurst, Long Grove, Mettawa, Mundelein, Old Mill Creek, Riverwoods, Third Lake, Vernon Hills, Wadsworth and Wheeling. New development has centered on the many lakes in the watershed. Open space areas are concentrated along the Des Plaines River, where the Lake County Forest Preserve District has substantial holdings, which stretch uninterrupted from the Wisconsin-Illinois border into Cook County. Watershed planning activities continue for the entire Des Plaines River watershed and planning sponsors include the Illinois Department of Natural Resources, U.S. Army Corps of Engineers, Lake, Cook and DuPage Counties. The Lake County Stormwater Management Commission has completed watershed management plans for the Indian Creek, Bull Creek/Bull's Brook, and Squaw Creek sub-watersheds to date. As funding becomes available, future watershed planning efforts will be implemented.

Fox River Watershed

The Fox River originates about 15 miles northwest of Milwaukee, Wisconsin. The river enters the northwest corner of Lake County in the Chain O'Lakes area and then enters McHenry County, but reenters Lake County south of Fox River Valley Gardens. About 163 square miles of Lake County drains to the Fox River.

Along the Fox River from the state line to Algonquin, the terrain is flat and contains many lakes and low-lying wetlands. The upland areas of the watershed include gently sloping topography to steep hilly terrain.

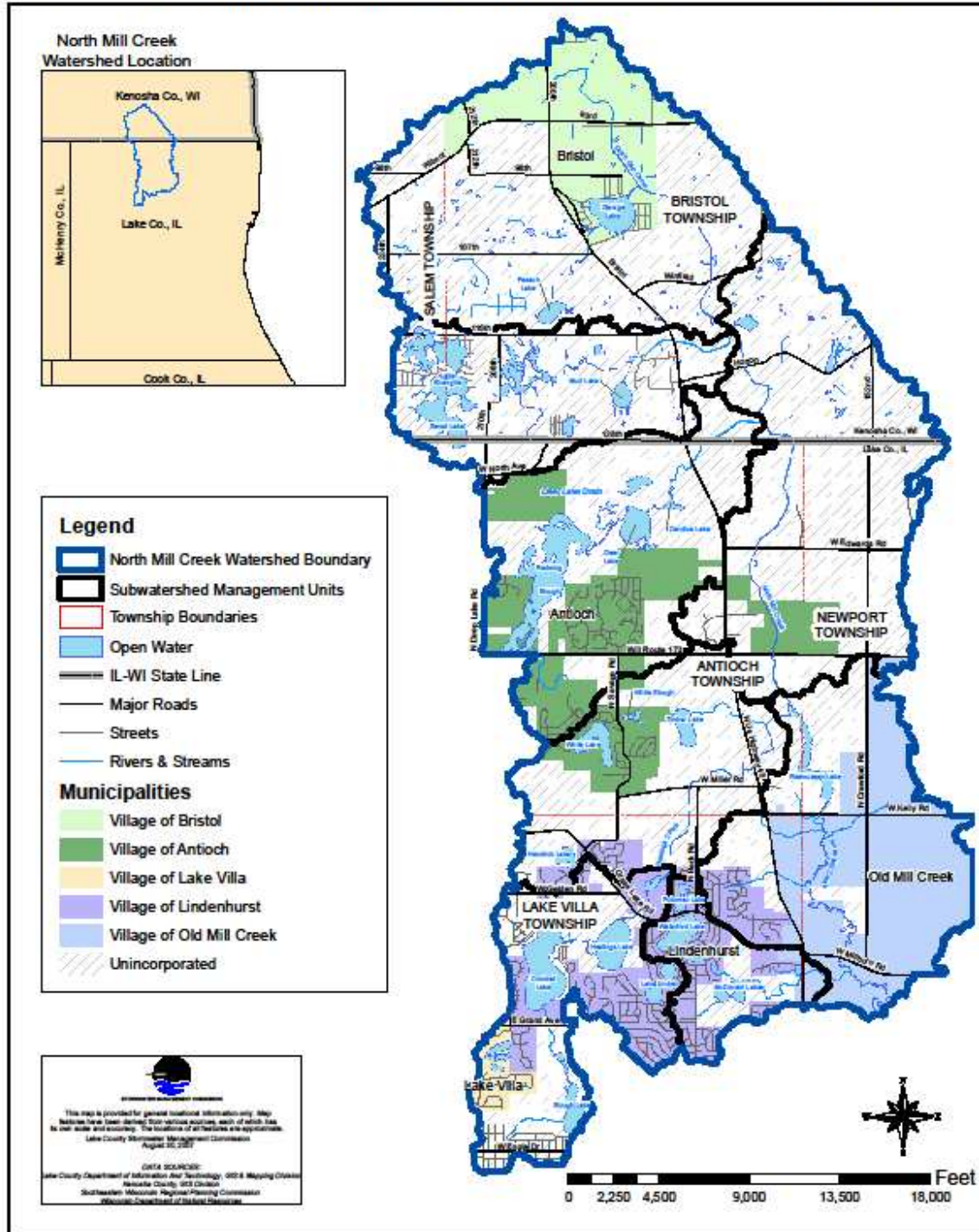
Major tributaries to the Fox River in Lake County include the Chain O'Lakes, Sequoit Creek, Squaw Creek, Mutton Creek, Slocum Lake Drain, Tower Lake Drain and Flint Creek. The northern area around the Chain O'Lakes is substantially developed around the many lakes while the middle of the watershed is experiencing an increase in suburbanization. The same can be said for the southern area of the watershed, which includes existing and new development with estate and rural estate development.

The Fox River watershed includes all or portions of the communities of Antioch, Barrington, Barrington Hills, Deer Park, Fox Lake, Fox River Grove, Grayslake, Hainesville, Hawthorn Woods, Island Lake, Lake Barrington, Lake Villa, Lake Zurich, Lakemoor, Mundelein, North Barrington, Port Barrington, Round Lake, Round Lake Beach, Round Lake Heights, Round Lake Park, Tower Lakes, Volo and Wauconda.

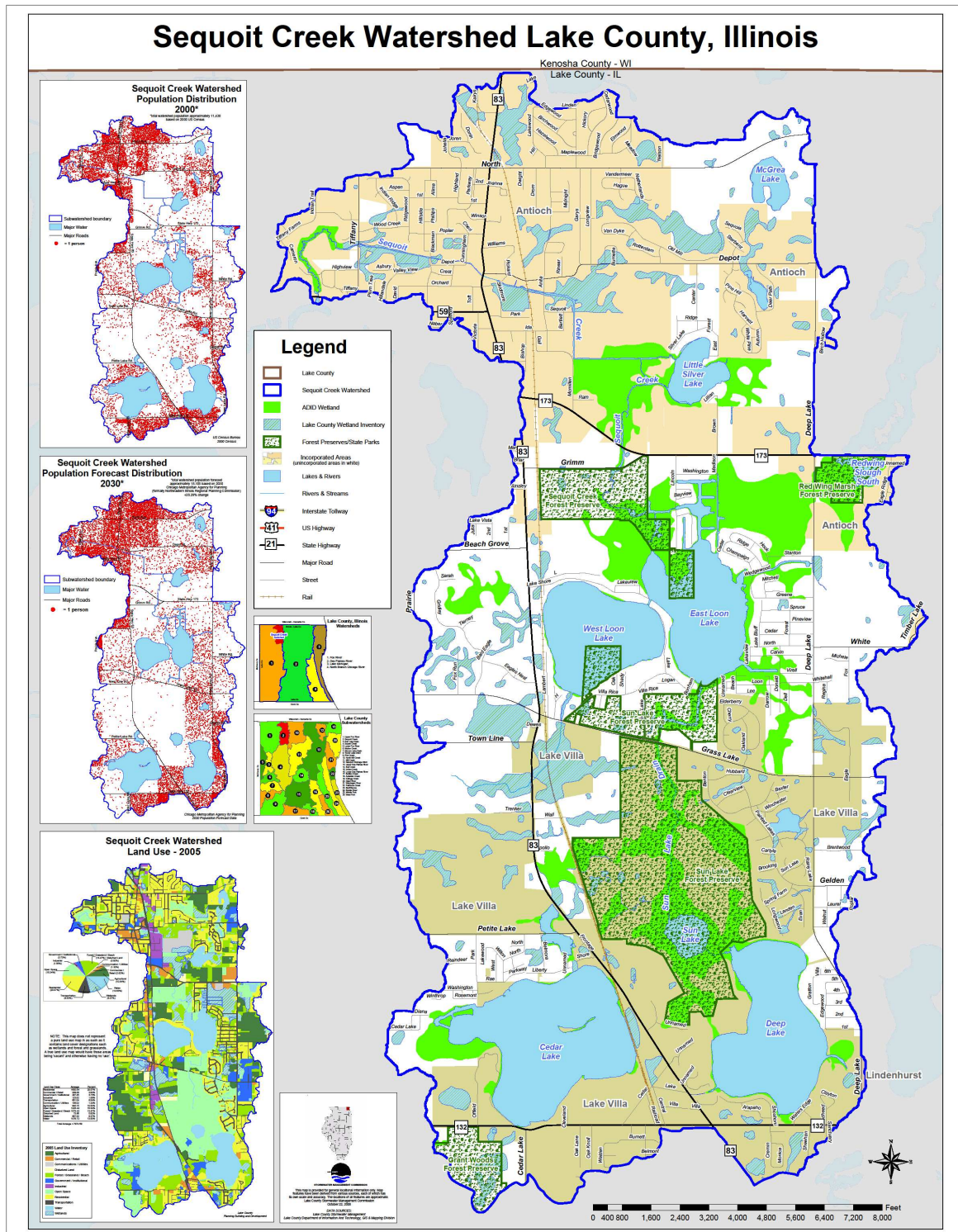
SMC has completed watershed management plans for the Fish Lake Drain, Flint, Mutton, Sequoit, Slocum and Squaw subwatersheds. In 2007, the Flint Creek Watershed Partnership completed a new plan that meets the EPA's criteria for watershed-based plans under section 319 of the Clean Water Act. SMC is currently completing a similar upgrade for the Fish Lake Drain watershed.

Figures 1a-1c: Map of Major Sub-Watersheds and Receiving Waters

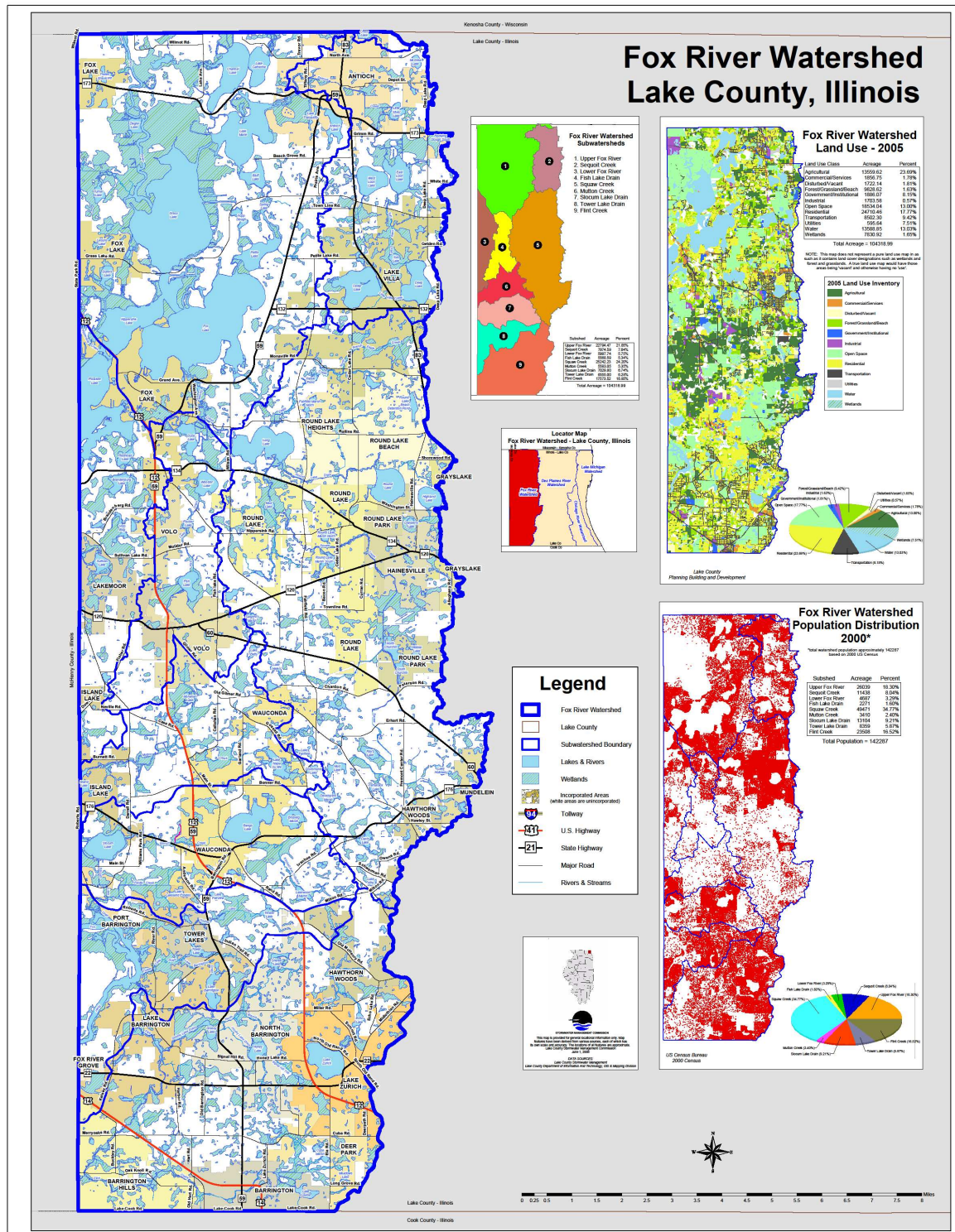
Municipalities and Townships in North Mill Creek/Dutch Gap Watershed



Figures 1a-1c: Map of Major Sub-Watersheds and Receiving Waters



Figures 1a-1c: Map of Major Sub-Watersheds and Receiving Waters



2 Program Management

This Chapter describes the organizational structures of the Village, the County and IEPA. It further discusses the roles and responsibilities of the various involved parties.

2.1 Implementation of this SMPP

The SMPP includes detailed discussions on the types of tasks that are required to meet the permit conditions under the NPDES II program and how to perform these tasks.

Appendix 5.15 includes related tracking forms. The tracking forms are broken out into three categories (based on the frequency of occurrence). There are three different tracking forms included: Annual, As-Needed and On-Going. These forms should be printed annually and the progress of all tasks tracked. At the end of the yearly reporting period (March 1 – February 28/29) the forms should be filed in a binder to document SMPP related activities to IEPA, or their authorized agent, in the case of an audit. It is anticipated that implementation of this SMPP constitutes compliance with the program. The SMPP must be posted on the Village's website.

2.2 Intra-Department Coordination

The Board of Trustees is the policy and budget setting authority for the Village. The Departments of Engineering and Public Works work together to implement this SMPP. The Stormwater Coordinator has primary responsibility for managing the overall program.

2.2.A Stormwater Coordinator

The Engineering Supervisor is the Stormwater Coordinator and is responsible for the oversight and implementation of this SMPP. The Stormwater Coordinator has many different responsibilities, he/she:

- is the lead contact for coordination with the Lake County Stormwater Management Commission, the Illinois Environmental Protection Agency, contractors, the development community and other external regulatory agencies;
- understands the requirements of ILR40, ensures that the SMPP meets the requirements of the permit and that the Village effectively implements the SMPP;
- ensures, or assists the Enforcement Officer in ensuring, that the Village complies with all minimum Watershed Development Ordinance (WDO) provisions;
- ensures that the Municipal Facilities comply with all minimum ILR40 permit requirements;

- is aware when a Municipal Project is required to be authorized under the ILR10 permit. In these cases the Stormwater Coordinator should ensure that the NOI is received by IEPA at least 30 days prior to the start of construction; and
- assists the development community in understanding when a ILR10 permit is required and whether construction sites comply with the general ILR10 and WDO permit conditions; and
- should understand the role illicit discharges play in the overall NPDES II program. In general, an incidence of non-compliance must be filed with IEPA for illicit discharges exiting an MS4's outfall into a receiving water. Additionally, if the illicit discharge is generated by a construction site, it may be necessary for both the applicant and the MS4 to file the ION form with IEPA.

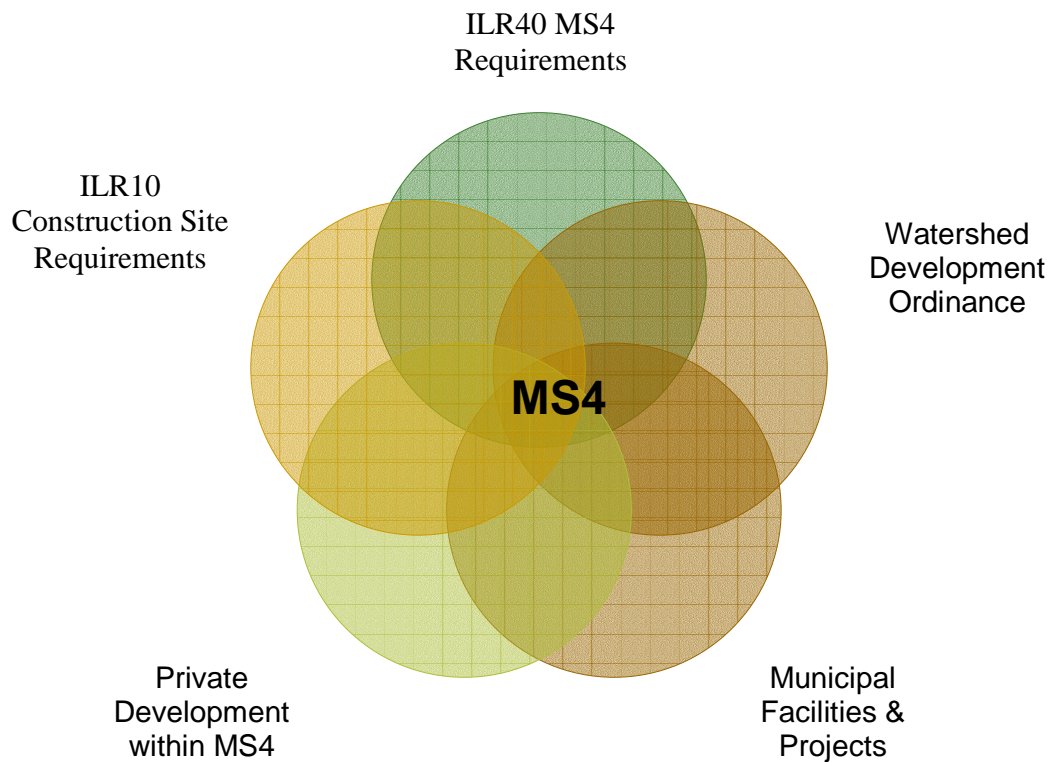


Figure 2: Roles of MS4
provided by Gewalt Hamilton & Associates

2.2.B Engineering Department

Engineering personnel support the Stormwater Coordinator in obtaining compliance with both the NDPES and WDO programs.

The Village Administrator is also the Enforcement Officer with respect to the administration and enforcement of the Lake County Watershed Development Ordinance (WDO). The design and construction of all public projects shall comply with the WDO. As the Enforcement Officer, the Village Administrator has the responsibility to concur that projects meet WDO standards prior to the issuance of permits, and oversee site inspections during construction. Refer to Chapter 3.4-3.5 for additional information on this process.

2.2.C Public Works Department

Infrastructure maintenance activities within the Village are carried out by Public Works personnel. Public Works personnel are designated as the primary entity responsible for performing the duties specified under Chapter 3.3 Illicit Discharge Detection and Elimination and Chapter 3.6 Pollution Prevention and Good Housekeeping.

2.3 Coordination with Lake County Stormwater Management Commission

Coordination between the Village and the Lake County Stormwater Management Commission (SMC) occurs through both participation in the SMC sponsored MAC forums and through the Certified Community Status under the Lake County Watershed Development Ordinance (WDO). The Village's Stormwater Coordinator is the lead contact for participation in the MAC forums and the Village's Enforcement Officer is responsible for enforcement of the WDO and is designated by the Village to the SMC.

2.4 Coordination with Consultants

The Village may enlist the services of consultants to assist in the implementation of the WDO (including, but not limited to, plan review, site inspections and enforcement), and the design of Village projects. The Village Administrator has the responsibility of administering these contracts.

2.5 Coordination of Contractors

The Village may hire contracted services. The Village also has a responsibility to hire contractors who are knowledgeable of the applicable requirements of the ILR40 and ILR10 permits. The Village shall provide appropriate training, or require documentation that appropriate training has been attended, for all contractors responsible for municipal green infrastructures.

2.6 Coordination with the Public

Coordination with the Public occurs on several levels. The Public Education and Outreach Program of this SMPP is discussed in Chapter 3.1. The Public Participation and Involvement Program of this SMPP is discussed in Chapter 3.2. The Public has the opportunity to comment on proposed preliminary and final plans through the Plan Commission and Village Board process established in the Village Code.

2.7 Coordination with the IEPA

The Village is required to complete annual reports which describes the status of compliance with the ILR40 permit conditions and other related information as presented on the annual report template provided by the QLP. The annual report must be posted on the Village's website and submitted to the IEPA by the first day of June each year. Annual reporting to IEPA should consist of "implemented SMPP" for all tasks completed in accordance with this SMPP. Additional information should be provided for areas of enhancement or tasks not completed.

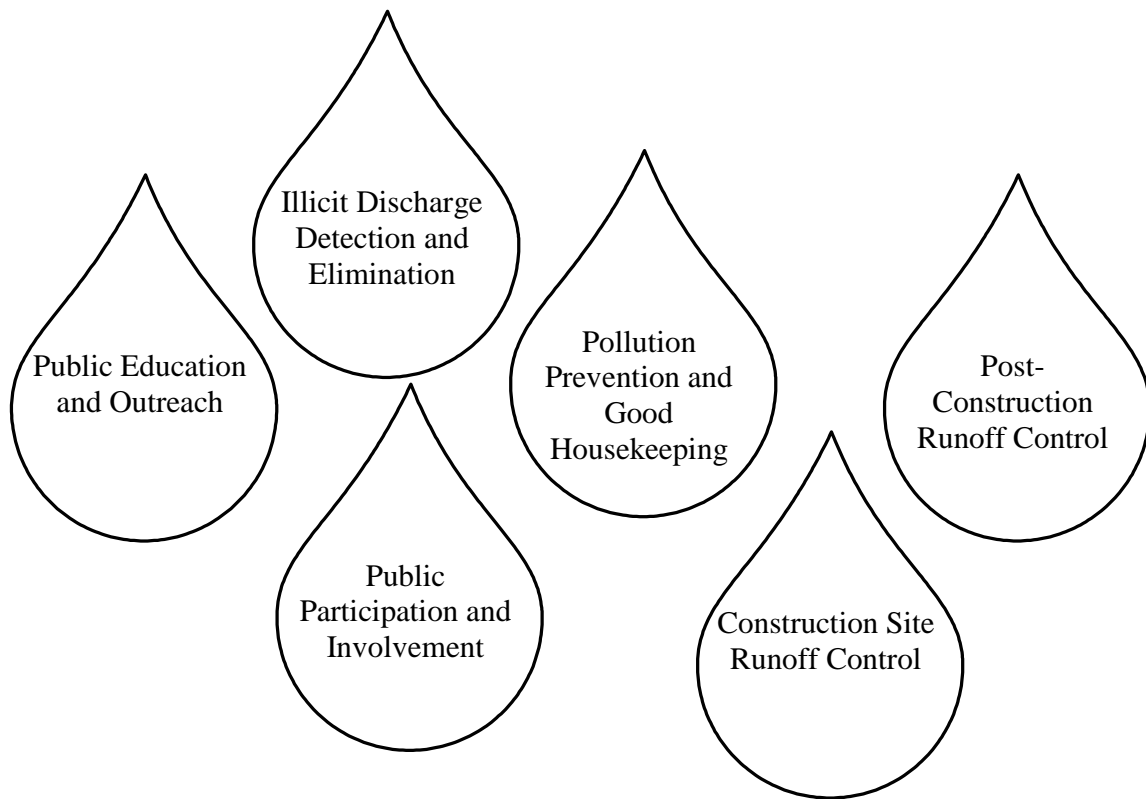
Records regarding the completion and progress of the SMPP commitments must be kept by the community. The task sheets, described in Chapter 2.1, should be updated throughout the year. The completed task sheets should be located in a binder with necessary supporting documentation. The binder must be available for inspection by both IEPA and the general public.

2.8 Coordination with the Development Community

The Village of Antioch has a responsibility to assist the development community in understanding when a ILR10 permit is required and whether construction sites comply with the general ILR10 and WDO permit conditions. The Village should understand the role illicit discharges play in the overall NPDES II program. In general, an incidence of non-compliance must be filed with IEPA for illicit discharges exiting an Village's outfall into a receiving water. Additionally, if the illicit discharge is generated by a construction site, it may be necessary for both the applicant and the Village to file the ION form with IEPA.

Furthermore, the Village has a responsibility to inform the development community that they are required to hire contractors which meet the qualifications necessary under the program, refer to Chapter 3.4.B for additional information on qualified personnel.

3 The Program



This Stormwater Management Program Plan includes six components, each of which is necessary in an effort to reduce/eliminate stormwater pollution in receiving water bodies. Chapter 3.1 describes the efforts to educate the public about stormwater pollution and stormwater pollution prevention. The manner in which the Village incorporates public participation and involvement into the SMPP is explained in Chapter 3.2. Chapter 3.3 describes the approach to detecting and eliminating stormwater illicit discharges. Construction and post construction runoff control is addressed in Chapters 3.4 and 3.5. Lastly, Chapter 3.6 discusses responsibilities for the care and upkeep of its general facilities, associated maintenance yards, and municipal roads and to minimize pollution. This chapter also discusses necessary training for employees on the implementation of the SMPP.

3.1 Public Education and Outreach



The Village of Antioch, in cooperation with the QLP, utilizes a variety of methods to educate and provide outreach to the public about the importance of managing pollutants that potentially could enter the stormwater system. The program includes the following activities which are discussed in greater detail in this chapter.

- Distribute information sheets regarding stormwater BMP and water quality BMP to Homeowner's Associations known to have BMP's in place.
- Insert a yearly Public Service Announcement into the Village newsletter.
- Coordinate, publicize, and participate in annual Solid Waste Pickup Day by SWALCO.
- Maintain the Village website which offers links to additional educational information, and ways to contact the Village personnel.
- Participate in the SMC and APWA sponsored IDDE workshop.

3.1.A Distribution of Paper Materials

The Village of Antioch actively pursues the acquisition of educational sheets prepared by the QLP, IEPA, USEPA, Center for Watershed Protection, Chicago Metropolitan Agency for Planning "CMAP" (previously Northeastern Illinois Planning Commission "NIPC"), University of Wisconsin Extension, Solid Waste of Lake County (SWALCO) and other agencies and organizations. The Village maintains a list of available publications in the SMPP binder and on the web-site. The Village lists the Public Work and Engineering Departments telephone number on all the Village outreach publications to encourage residences to contact the Village with environmental concerns.

Types of materials distributed include:

- The "Guidelines for Draining Swimming Pools" door hanger,
- The "Protect Our Water" door hanger,

- Informational sheets/pamphlets regarding storm water best management practices,
- Informational sheets/pamphlets regarding construction site activities (soil erosion and sediment control best management practices),
- Informational sheets/pamphlets regarding the hazards associated with illegal discharges and improper disposal of waste and the manner in which to report such discharges,
- Informational sheets/pamphlets regarding green infrastructure strategies, and
- Informational sheets/pamphlets published by SWALCO regarding proper hazardous waste use and disposal.

Publications are provided in the following manner:

- At take-a-away racks located at Village Hall,
- At outreach events,
- The municipal newsletter,
- At scheduled meetings with the general public. These meetings are on an as needed or as requested basis and may be with the home owners associations, businesses, or local schools.

3.1.B Classroom Education



When permitted, the Village conducts classroom presentations at local schools. A SWALCO representative prepares the presentation with the Village support. The Village keeps a log of event dates and participating schools, as applicable.

3.1.C Web Site



The Village of Antioch's web site includes stormwater quality specific elements. The web-site gives information regarding water quality, solid waste and hazardous material, green infrastructure, illicit discharges, stormwater and general environmental health, refer to Chapter 3.1.A for a more detailed description of the type of information to be posted. The web-site is updated by the Village staff periodically. A significant amount of information is made available through links to other educational and informational sites.

This SMPP, the NOI and any previous annual reports must be posted on the Village's website. Each year's annual report must be posted on the Village's website and submitted to the IEPA by the first day of June each year.

3.1.D Outreach Events

When possible, the Village of Antioch attends and/or sponsors outreach events and scheduled meetings with the general public. These events are held on an as needed or as requested basis. Audiences may include the home owners associations, lake associations, businesses, and neighborhood groups.

3.1.E Technical Workshops



Periodically, the QLP hosts or co-host workshops for the general public that focus on specific stormwater topics. These workshops typically discuss stormwater topics currently of interest within the County. They offer the opportunity to share information and facilitate a collective focus on potential solutions to the challenges faced by the County, Villages, and other stakeholders.

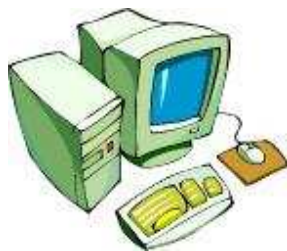
3.1.F Storm Drain Stenciling & Markers



The Village of Antioch supports the efforts of private entities to stencil or apply stickers to inlets, and their purchase of factory stamped inlet grates. These efforts apply messages at storm drain inlets with the intent of assisting in educating the public about stormwater runoff pollution. The Village efforts include:

- Providing the “Guide to Storm Drain Marking” (by SMC) to Home Owners Associations, school groups etc. that express interest.

3.1.G Household Hazardous Wastes



The average garage contains a lot of products that are classified as hazardous wastes, including paints, stains, solvents, used motor oil, pesticides and cleaning products. While some household hazardous waste (HHW) may be dumped into storm drains, most enters the storm drain system as a result of outdoor rinsing and cleanup. Improper disposal of HHW can result in acute toxicity to downstream aquatic life. The desired neighborhood behavior is to participate in HHW collection days, and to use appropriate pollution prevention techniques when conducting rinsing, cleaning and fueling operations. The Village supports the initiatives of the Solid Waste Agency of Lake County to employ a range of tools to improve resident participation. These include:

- Mass media campaigns to educate residents about proper outdoor cleaning/rinsing techniques

- Conventional outreach materials notifying residents about HHW and collection days
- Providing mobile HHW pickup

3.1.G.1 *Solid Waste Agency of Lake County (SWALCO)*

SWALCO provides solid waste management programs to Lake County (in both incorporated and unincorporated areas). Their programs are aimed at reducing our reliance on landfills through source reduction, recycling and energy recovery. In general, the programs help residents dispose of problem wastes, such as household chemicals, electronic equipment, and yardwaste. Their recycling programs are targeted at both commercial and residential markets in order to divert as much solid waste as possible from reaching landfills. They also administer its own public information and education efforts include the “Earth Flag” and “Earth Flag Every Day” programs in the schools, promoting SWALCO events, and publishing various resources.

The Village of Antioch coordinates with SWALCO to participate in at least one collection per year. These collections encourage the proper disposal of hazardous materials. At a minimum, the Village encourages participation in the event by publicizing these special collections in local newspapers and on the Village web-site. The Village maintains a log of event dates and quantities collected.

3.1.H **Septic System Maintenance**

Failing septic systems can be a major source of bacteria, nitrogen, and phosphorus, depending on the overall density of systems present in a subwatershed . Failure results in illicit surface or subsurface discharges to streams. Septic systems are a classic case of out of sight and out of mind. Many owners take their septic systems for granted, until they back up or break out on the surface of their lawn. Subsurface failures, which are the most common, go unnoticed. In addition, inspections, pump outs, and repairs can be costly, so many homeowners tend to put off the expense until there is a real problem. Lastly, many septic system owners are not aware of the link between septic systems and water quality. The Village employs a range of tools to improve septic system maintenance. These include:

- Conventional outreach materials to increase awareness about septic system maintenance and water quality (e.g., brochures and newsletter)
- Performance certification upon property transfer (County Health Department requirement)

3.1.I Vehicle Fluid Maintenance



Dumping of automotive fluids into storm drains can cause major water quality problems, since only a few quarts of oil or a few gallons of antifreeze can severely degrade a small stream. Dumping delivers hydrocarbons, oil and grease, metals, xylene and other pollutants to streams, which can be toxic during dry-weather conditions when existing flow cannot dilute these discharges. The major culprit has been the backyard mechanic who changes his or her own automotive fluids. The Village employs a range of tools to improve vehicle fluid maintenance. These include:

- Outreach materials
- Community oil recycling centers
- Directories of used oil collection stations
- Fines and other enforcement actions

3.1.J Car Washing

Car washing is a common neighborhood behavior that can produce transitory discharges of sediment, nutrients and other pollutants to the curb, and ultimately the storm drain. Communities have utilized many innovative outreach tools to promote environmentally safe car washing, including:

- Media campaigns
- Brochures promoting nozzles with shut off valves
- Storm drain plug and wet vac provisions for charity car wash events
- Water bill inserts promoting environmentally safe car washing products
- Discounted tickets for use at commercial car washes

3.1.K Pool Dewatering



Chlorinated water discharged to surface waters, roadways or storm sewers has an adverse impact on local stormwater quality. High concentrations of chlorine are toxic to wildlife, fish and aquatic plants. The pH of the water should be between 6.5 and 8.5. Algaecides such as copper or silver can interrupt the normal algal and plant growth in receiving waters and should not be present when draining. Prepare appropriately before draining down a pool. It is recommended that one of the following measures be used:

- 1) De-chlorinate the water in the pool prior to draining through mechanical or chemical means; these types of products are available at local stores.
- 2) De-chlorinate the water in the pool through natural means. Pool water must sit at least 2 days with a reasonable amount of sun, after the addition of chlorine or bromine. It is recommended that the chlorine level be tested after 2 days to ensure that concentrations are at a safe level (below 0.1-mg/l).
- 3) Drain the pool slowly over a several day period across the lawn; or drain directly into the sanitary sewer using the following additional guidelines:
 - a) Avoid discharging suspended particles (e.g. foreign objects blown into the pool like leaves, seedlings, twigs etc) with pool water.
 - b) When draining your pool, do not discharge directly onto other private properties or into public right-of-way **including storm sewer inlets**.

The Village has acquired a door hanger and fact sheet, ***Pool Dewatering Fact Sheet (Appendix 5.11)***, stating the above information. Outreach efforts (such as including information in the news letter, other mail-outs or adding information to the take-a-way racks) should occur each fall, preferably September.

3.2 Public Participation and Involvement

The public participation and involvement program allows input from citizens during the development and implementation of the SMPP. The SMPP should be evaluated annually.

Major highlights and deficiencies should be noted annually and the plan revised accordingly on a minimum 5-yr basis, or as necessary.

3.2.A Public Review Process

Comments on the SMPP are continually accepted through the web-site, phone calls or other media. Comments are evaluated for inclusion and incorporated into the next revision of the SMPP as appropriate. Present each year's annual report to the Board during an open meeting.

3.2.B Complaints, Suggestions and Requests



Calls are screened, logged and routed to the appropriate department for action. General program related calls are directed to the Stormwater Coordinator, or designee. Construction activity related telephone calls are directed to the Enforcement Officer, or designee. Illicit Discharge, storm sewer, and other related stormwater runoff concerns are directed to the Public Works Department. The Village maintains a website which enables and encourages public contact on these issues.

3.2.C Watershed Planning and Stakeholders Meetings

The Village of Antioch participates (and encourages the participation of local stakeholders) in QLP or other sponsored watershed planning events. The Village will adopt Watershed Plans per the direction and in coordination with the QLP.

3.2.D Illicit Discharge/Illegal Dumping



The Village of Antioch maintains, operates and publicizes a call in phone number where parties can contact The Village with environmental concerns. Primary advertisement venues include the website and all related municipal publications. Telephone calls received from residents, other internal Departments or other agencies are logged on the **Indirect Illicit Discharge Tracking Form (Appendix 5.13)**. The Public Works Director, or his designee, should transfer information from the tracking form to the **Indirect Illicit Discharge Summary Form (Appendix 5.13)** monthly. This tracking form should be reviewed with the Stormwater Coordinator annually to determine if trends can be seen and if there are additional outreach efforts needed.

3.2.E LCSMC Municipal Advisory Committee (MAC)

The Village of Antioch participates in MAC meetings and events hosted by the QLP.

3.2.F Adopt-A-Highway



The Village of Antioch, in cooperative partnership with the IDOT, supports Adopt-A-Highway Programs for state roadways within the municipal limits. The objective of the program is to improve and promote the image of the entire community by reducing potential illicit discharges. Participation meets the Program Policy and Safety Guidelines established by IDOT in a separate document.

3.3 Illicit Discharge Detection and Elimination¹



¹ Section 3.3 is a revision of the Lake Michigan Watershed Stormwater Outfall Screening Program Training Program (April 1994 by SMC), and incorporates material from the Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments (October 2004 by the Center for Watershed Protection and Robert Pitt, University of Alabama).

Currently, illicit discharges (defined in 40 CFR 122.26(B)(2)) contribute considerable pollutant loads to receiving waters. There are two primary situations that constitute illicit discharges; these include non-stormwater runoff from contaminated sites and the deliberate discharge or dumping of non-stormwater. Illicit discharges can enter the storm sewer system as either an indirect or direct connection.

3.3.A Regulatory Authority

Effective implementation of an IDDE program requires adequate legal authority to remove illicit discharges and prohibit future illicit discharges. This regulatory authority is achieved through adoption of the Lake County Watershed Development Ordinance (WDO) and the Village IDDE Ordinance. Additionally, IEPA has regulatory authority to control pollutant discharges and can take the necessary steps to correct or remove an inappropriate discharge over and above SM4 jurisdiction.

3.3.A.1 *Watershed Development Ordinance*

Several provisions of the Lake County Watershed Development Ordinance (WDO) prohibit illicit discharges as part of the development process. These provisions are only applicable for regulated development activities as defined by the WDO. Regulated developments are required to meet the soil erosion and sediment control standards of the WDO. Furthermore, the WDO requires that the applicant prohibit illicit discharges into the stormwater management system generated during the development process.

The WDO allows the Village of Antioch to require inspection deposits, performance bonds, and to adopt/enforce violation procedures. These tools assist in achieving complaint construction sites. These items are further discussed in Chapters 3.4 and 3.5.

3.3.A.2 *Illicit Discharge Ordinance*

The Village of Antioch created and adopted an Illicit Discharge Ordinance in June 2008. The Ordinance is the mechanism to allow for the execution and enforcement of the SMPP and is enforced.

3.3.A.3 *Subdivision Ordinance*

The Village of Antioch has a Subdivision Ordinance. This Ordinance is administered by the Building and Engineering Departments and can be used to further support the activities required by the SMPP.

3.3.B Understanding Outfalls and Illicit Discharges

Understanding the potential locations and the nature of illicit discharges in urban watersheds is essential to find, fix and prevent them.

3.3.B.1 *Identifying Outfalls and Receiving Waters*

An Outfall (is defined at 40 CFR 122.26(B)(9)) means a point source (as defined by 40 CFR 122.2) at the point where a municipal separate storm sewer discharges into a waters of the United States “receiving water”. Open conveyances connecting two municipal storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other Waters of the United States are not considered Outfalls. For the purposes of this manual the following definitions shall be used:

Outfall: Storm sewer outlet, or other open conveyance point discharge location, that discharges into a Waters of the U.S, receiving water or another MS4.

Regulated systems include the conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, gutters, ditches, swales, manmade channels or storm sewers.

An outfall inventory was completed by the Village. This investigation was completed with aerial photography and ArcPad software. This map is used in combination with the previously existing **Storm Sewer Atlas** to help determine the extent of discharged dry weather flows, the possible sources of the dry weather flows, and the particular water bodies these flows may be affecting. The inlets and outfall locations will be numbered to facilitate detection and tracking of identified illicit discharges. The **Storm Sewer Atlas and Outfall Inventory Map** is on file at the Village’s Engineering department.

The outfall map will be revised annually to incorporate permitted outfalls associated with new developments. An outfall inventory should be performed every 5 years; the focus of this effort is to search for new outfalls (i.e. those not already included on the existing **Outfall Inventory Map**). The search for new outfalls should be combined with the pre-screening efforts (Chapter 3.3.D.1).

3.3.B.2 *Potential Sources of Illicit Discharges*

Table 1 shows that direct connections to storm sewer systems most likely originate from commercial/industrial facilities. Thus, the focus on Chapter 3.3 is on the identification of illicit discharges from commercial/industrial facilities.

Table 1: Potential Sources of Illicit Discharges to Storm Sewers

Potential Sources	Storm Sewer Entry		Flow Characteristics	
	Direct	Indirect	Continuous	Intermittent
Residential Sources				
Sanitary Wastewater	√	X	√	X
Septic Tank Effluent	-	√	√	X
Household Chemicals	X	√	-	√
Laundry Wastewater	√	-	-	√
Excess Landscaping Watering	-	√	-	√
Leaking Potable Water Pipes	-	√	√	-
Commercial Sources				
Gasoline Filling Stations	√	X	-	√
Vehicle Maint./Repair Facilities	√	X	-	√
Laundry Wastewater	√	-	√	X
Construction Site Dewatering	-	√	√	X
Sanitary Wastewater	√	X	√	-
Industrial Sources				
Leaking Tanks and Pipes	X	√	√	X
Misc. Process Waters	√	X	√	X

√: Most likely condition.

X: May Occur

-: Not very likely

Source: Adapted From: USEPA. January 1993. *Investigation of Inappropriate Pollutant Entries Into Storm Drainage Systems: A User's Guide*. Cincinnati, Ohio.

3.3.B.3 USEPA Exclusions

It is noted that not all dry-weather flows are considered inappropriate discharges. Under certain conditions, the following discharges are not considered inappropriate by USEPA:

- Water line flushing,
- Landscaping irrigation,
- Diverted stream flows,
- Rising groundwaters,
- Uncontaminated groundwater infiltration,
- Uncontaminated pumped groundwater,
- Discharges from potable water sources,
- Flows from foundation drains,
- Air conditioning condensation,
- Irrigation water,
- Springs,
- Water from crawl spaces,
- Lawn watering,
- Individual car washing,
- Flows from riparian habitats and wetlands,
- Dechlorinated swimming pool water, and
- Street wash water.

3.3.B.4 Pollutant Indicators

3.3.B.4.a PHYSICAL INDICATORS

Adapted from New Hampshire Estuaries Project and the IDDE Guidance Manual by the Center for Watershed Protection.

Odor

Water is a neutral medium and does not produce odor; however, most organic and some inorganic chemicals contribute odor to water. Odor in water may originate from municipal and industrial waste discharges, from natural sources such as decomposition of vegetative matter, or from associated microbial activity.

Table 2: Odor or Potential Illicit Discharges (adapted from CWP)

Odor	Possible Cause
Sewage	Wastewater treatment facilities, domestic waste connected into storm drain, failing septic system
Sulfide (rotten eggs)	Decaying organic waste from industries such as meat packers, dairies and canneries
Rancid/sour	Many chemicals, including pesticides and fertilizers, emit powerful odors that may produce irritation or stinging sensations.
Petroleum/gas	Industry associated with vehicle maintenance or petroleum product storage; gas stations
Laundry	Laundromat, dry cleaning, household laundry

Color

Color is a numeric computation of the color observed in a water quality sample, as measured in cobalt-platinum units. Both industrial liquid wastes and sewage tend to have elevated color values. Unfortunately, some “clean” flow types can also have high color values. A color value higher than 500 units may indicate an industrial discharge.

Table 3: Color of Potential Illicit Discharges (adapted from CWP)





Water Color	Possible Cause	Images
Brown Water – water ranging in color from light-tea to chocolate milk; it may have a rotten egg odor.	Human causes may be eroded, disturbed soils from constr. sites, animal enclosures, destabilized stream banks and lake shore erosion due to boat traffic.	
Yellow –	Human causes may include textile facilities, chemical plants or pollen.	
Gray Water – water appears milky and may have a rotten egg smell and/or soap odor. There may also be an appearance of cottony slime.	Human causes may be illicit connections of domestic wastewater; untreated septic system discharge; illegal boat discharge; and parking lot runoff.	
Green Water – ranging from blue green to bright green color and may impart odor. Conditions typically occur from May to October.	Human causes may be over-fertilizing lawns, boat discharges, septic systems, agriculture operations, or discharging poorly treated wastewater.	
Orange/Red -	Human causes may include meat packing facilities or dyes.	
Green Flecks – resembling floating blue-green paint chips or grass clippings. These <i>Blooms</i> and are potentially toxic.	Human cause is excessive nutrients. Fertilizers used on lawns can contaminate surface and ground water.	

Table 3 (continued)

Water Color	Possible Cause	Images
Green Hair-Like Strands - bright or dark green, resembling cotton candy and often in floating mats.	Human causes are excessive nutrients from fertilizers or failed on-shore septic systems.	
Multi-Color Water – various or uniform color, other than brown, green or gray. For rainbow sheen see floatables.	Human causes include oil or hazardous waste spill, paint and paint equipment rinsed into storm drains or into failing septic systems.	

Turbidity

Turbidity is a measure of the clarity of water. Turbidity may be caused by many factors, including suspended matter such as clay, silt, or finely divided organic and inorganic matter. Turbidity is a measure of the optical properties that cause light to be scattered and not transmitted through a sample. The presence of turbidity is to be assessed by comparing the sample to clean glass sample container with colorless distilled water.

Turbidity and color are related terms but are not the same. Remember, turbidity is a measure of how easily light can penetrate through the sample bottle, whereas color is defined by the tint or intensity of the color observed.

Figure 4
Turbidity Severity Examples
(adapted from CWP)



Turbidity
Severity 1



Turbidity
Severity 2



Turbidity
Severity 3

Floatables

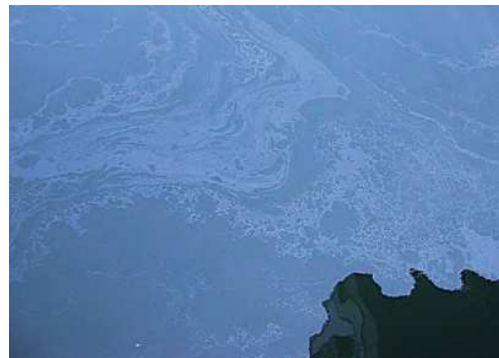
The presence of sewage, floating scum, foam, oil sheen, or other materials can be obvious indicators of an illicit discharge. However, trash originating from areas adjacent to the outfall is this section.

- If you think the floatable is sewage, you should automatically assign it a severity score of three since no other source looks quite like it.
- Suds are rated based on their foaminess and staying power. A severity score of three is designated for thick foam that travels many feet before breaking up. Natural foam breaks apart easily, can be brown, black or yellowish and may smell fishy or musty.
- Surface oil sheens are ranked based on their thickness and coverage. In some cases, surface sheens may not be from oil discharges, but instead created by in-stream processes. A petroleum sheens doesn't break apart and quickly flows back together.

Figure 5
Natural Sheen versus Synthetic
(adapted from CWP)




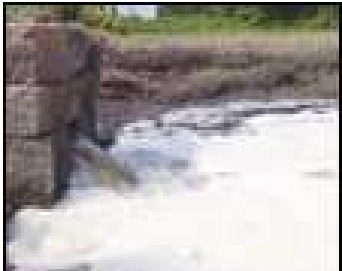


Sheen from natural bacteria forms a swirl-like film that cracks if disturbed



Synthetic oil forms a swirling pattern

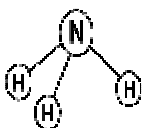
Table 4: Floatables in Potential Illicit Discharges (adapted from CWP)

Floatables	
<p data-bbox="181 1507 296 1538">Sewage</p> 	<p data-bbox="580 1507 1305 1608">Human causes include connection of domestic wastewater, leaking sanitary sewers or failing septic systems.</p>

<p>Suds and Foam –</p> 	<p>Common human causes of unnatural foam include leaking sewer lines, boat discharges, improper sewer connections to storm sewers and detergents from car washing activities.</p>
<p>Petroleum (oil sheen)</p> 	<p>Human causes may include leaking underground storage tank or illegal dumping.</p>
<p>Grease</p> 	<p>Common human causes include overflow from sanitary systems (due to clogging from grease) and illegal dumping.</p>

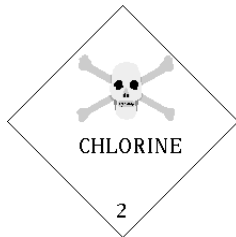
3.3.B.4.b TESTING INDICATORS

Ammonia



Ammonia is a good indicator of sewage, since its concentration is much higher there than in groundwater or tap water. High ammonia concentrations (>50 mg/l) may also indicate liquid wastes from some industrial sites. Ammonia is relatively simple and safe to analyze. Some challenges include the potential generation of wastes from non-human sources, such as pets or wildlife.

Chlorine



Chlorine is used throughout the country to disinfect tap water, except where private wells provide the water supply. Chlorine concentrations in tap water tend to be significantly higher than most other discharge types. Unfortunately, chlorine is extremely volatile, and even moderate levels of organic materials can cause chlorine levels to drop below detection levels. Because chlorine is non-conservative, it is not a reliable indicator, although if very high chlorine levels are measured, it is a strong indication of a water line break, swimming pool discharge, or industrial discharge from a chlorine bleaching process.

Copper



Concentrations of copper in dry-weather flows can be a result of corrosion of water pipes or automotive sources (for example, radiators, brake lines, and electrical equipment). The occurrence of copper in dry-weather flows could also be caused by inappropriate discharges from facilities that either use or manufacture copper-based products. A copper value of $>0.025\text{-mg/L}$ indicates an industrial discharge is present.

Industrial sources of copper include the following:

- Copper manufacturing (smelting),
- Copper metal processing/scrap remelting,
- Metal plating,
- Chemicals manufacturing,
- Analytical laboratories,
- Power plants,
- Electronics,
- Wood preserving, and
- Copper wire production.

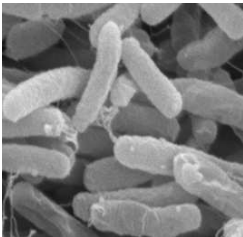
In each of these industries, wastes containing copper would normally be discharged to a treatment facility. Sludge from the waste treatment facility, whether on-site (including lagooning) or publicly operated treatment facilities, would contain copper. If the sludge (or the treatment process) is not managed properly, copper could enter the storm sewer system.

Detergents



Most illicit discharges have elevated concentration of detergents. Sewage and washwater discharges contain detergents used to clean clothes or dishes, whereas liquid wastes contain detergents from industrial or commercial cleansers. The nearly universal presence of detergents in illicit discharges, combined with their absence in natural waters or tap water, makes them an excellent indicator. Research has revealed three indicator parameters that measure the level of detergent or its components-- surfactants, fluorescence, and surface tension. Surfactants have been the most widely applied and transferable of the three indicators. Fluorescence and surface tension show promise, but only limited field testing has been performed on these more experimental parameters; therefore these are not tested. Refer to Boron and Surfactants descriptions.

E. coli, Enterococci and Total Coliform



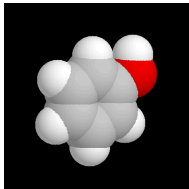
Each of these bacteria is found at very high concentrations in sewage compared to other flow types, and is a good indicator of sewage or seepage discharges, unless pet or wildlife sources exist in the subwatershed. Overall, bacteria are good supplemental indicators and can be used to find “problem” streams or outfalls that exceed public health standards. A Fecal Coliform count greater than 400 per 100 mL indicates waste water contamination.

Fluoride



Fluoride, at a concentration of two parts per million, is added to drinking water supplies in most communities to improve dental health. Consequently, fluoride is an excellent conservative indicator of tap water discharges or leaks from water supply pipes that end up in the storm drain. Fluoride is obviously not a good indicator in communities that do not fluorinate drinking water, or where individual wells provide drinking water. Fluoride levels greater than 0.6-mg/L indicate a potable water source is connected to the stormwater system.

Phenol



Phenol is a very commonly occurring chemical and can be found in foods, medicines, and cleaning products, as well as industrial products and by-products. Generally, the appearance of phenols in stormwater would indicate a misconnected industrial sewer to a storm drain or ditch. Exceptions would include runoff from treated wood storage yards (for example, treated lumber and telephone poles) and improper disposal (flash dumping) of cleaning products. A phenol value greater than 0.1-mg/L indicate an illicit discharge is present.

Industrial sources of phenol include the following:

- Chemical manufacturing (organic),
- Textile manufacturing,
- Paint and coatings manufacturing,
- Metal coating,
- Resin manufacturing,
- Tire manufacturing,
- Plastics fabricating,
- Electronics,
- Oil refining and re-refining,
- Naval stores (turpentine and other wood treatment chemicals),
- Pharmaceutical manufacturing,
- Paint stripping (for example, automotive and aircraft),
- Military installations (rework and repair facilities),
- Coke manufacturing,
- Iron production, and
- Ferro-alloy manufacturing.

Other sources of phenol include improper handling and disposal of cleaning compounds by institutions such as hospitals and nursing homes.

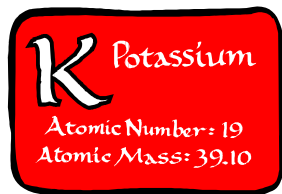
pH



Potential ID Range: <6.5 and > 8.5

Most discharge flow types are neutral, having a pH value around 7, although groundwater concentrations can be somewhat variable. pH is a reasonably good indicator for liquid wastes from industries, which can have very high or low pH (ranging from 3 to 12). The pH of residential wash water tends to be rather basic (pH of 8 or 9). The pH of a discharge is very simple to monitor in the field with low cost test strips or probes. Although pH data is often not conclusive by itself, it can identify problem outfalls that merit follow-up investigations using more effective indicators.

Potassium



Potassium is found at relatively high concentrations in sewage, and extremely high concentrations in many industrial process waters. Consequently, potassium can act as a good first screen for industrial wastes, and can also be used in combination with ammonia to distinguish wash waters from sanitary wastes. An ammonium to potassium ratio of >1 or <1 indicate waste water or wash water discharge respectively. A potassium value of >20-mg/l is a good indicator for industrial discharges.

Surfactants

Surfactant products where the surfactants are the primary components



Products where surfactant is a secondary component in the material or the production.



Surfactants are the active ingredients in most commercial detergents, and are typically measured as Methyl Blue Active Substances (or MBAS). They are a synthetic replacement for soap, which builds up deposits on clothing over time. Since surfactants are not found in nature, but are always present in detergents, they are excellent indicators of sewage and wash waters. The presence of surfactants in cleansers, emulsifiers and lubricants also makes them an excellent indicator of industrial or commercial liquid wastes. A surfactant value of $> 0.25\text{-mg/L}$ within residential areas indicates that either a sewage or washwater is present in the stormwater; a value of $>5\text{-mg/L}$ within non-residential areas indicates that there is an industrial discharge (refer to Table 46 from the Illicit Discharge Detection and Elimination manual by the Center for Watershed Protection for use in determining industrial flow types).

3.3.C Indirect Connection Program



Indirect connections are subtle connections, such as dumping or spillage of materials into storm sewer drains. Flash dumping is a common type of indirect connection. Generally, indirect modes of entry produce intermittent or transitory discharges, with the exception of groundwater seepage. There are five main modes of indirect entry for discharges.

3.3.C.1 *Groundwater Seepage*

Seepage discharges can be either continuous or intermittent, depending on the depth of the water table and the season. Groundwater seepage usually consists of relatively clean water that is not an illicit discharge by itself, but can mask other illicit discharges. If storm drains are located close to sanitary sewers, groundwater seepage may intermingle with diluted sewage. Addressing seepage that is observed during the outfall screening process is described in more detail in this Chapter.

3.3.C.2 *Spills*

These transitory discharges occur when a spill travels across an impervious surface and enters a storm drain inlet. Spills can occur at many industrial, commercial and transport-related sites. A very common example is an oil or gas spill from an accident that then travels across the road and into the storm drain system. The Spill Response Plan is described in Chapter 3.6.B.

3.3.C.3 *Dumping*

Dumping a liquid into a storm drain inlet: This type of transitory discharge is created when liquid wastes such as oil, grease, paint, solvents, and various automotive fluids are dumped into the storm drain. Liquid dumping occurs intermittently at sites that improperly dispose of rinse water and wash water during maintenance and cleanup operations. A common example is cleaning deep fryers in the parking lot of fast food operations. The Storm Drain Stenciling, Household Hazardous Wastes, Vehicle Fluid Maintenance and Pool Dewatering programs are designed to minimize dumping; these programs are described in Chapter 3.1.F, G, I and K. Additionally, the Village maintains a Illegal

Dumping Hotline which is described in Chapter 3.2.D. The procedure for handling a dumping incident is described in Chapter 3.6.B.1.

3.3.C.4 *Outdoor washing activities*

Outdoor washing may or may not be an illicit discharge, depending on the nature of the generating site that produces the wash water. For example, hosing off individual sidewalks and driveways may not generate significant flows or pollutant loads. On the other hand, routine washing of fueling areas, outdoor storage areas, and parking lots (power washing), and construction equipment cleanouts may result in unacceptable pollutant loads. Individual washing activities are addressed through the Public Education and Outreach Program in Chapter 3.1.J whereas observed/documented routine washing activities should be addressed through the Removal of Illicit Discharges Procedure in Chapter 3.3.E.4.

3.3.C.5 *Non-target irrigation from landscaping or lawns*

Irrigation can produce intermittent discharges from over-watering or misdirected sprinklers that send tap water over impervious areas. In some instances, non-target irrigation can produce unacceptable loads of nutrients, organic matter or pesticides. The most common example is a discharge from commercial landscaping areas adjacent to parking lots connected to the storm drain system. This type of discharge is addressed by the Public Education and Outreach Program in Chapter 3.1.

3.3.D Direct Connection Illicit Discharge Program



Direct connections enter through direct piping connections to the storm sewer system, and since direct connections exist regardless of whether or not a stormwater event (e.g. rain or melting snow) is occurring, they are most easily detected during dry-weather periods. Inspection of stormwater outfalls during dry-weather conditions reveals whether non-stormwater flows exist. If non-stormwater flows are observed, they can be screened and tested to determine whether pollutants are present. If the presence of pollutants is indicated, the detective work of identifying the source of the discharge can begin. Once the source is identified, it can then be corrected. A direct connection illicit discharge

program consists of three principal components: 1) program planning, 2) outfall screening, and 3) follow-up investigation and program evaluation.

1. **Program Planning** involves the office work, planning, and organization required to conduct the subsequent outfall screening and follow-up investigative activities of the program. Program planning identifies the regulatory authority to remove directly connected illicit discharges and the identification of the outfalls and receiving waters in the municipality (both discussed earlier in this chapter). Program planning for the direct connection portion of the overall program also includes the identification of the staffing and equipment needed to conduct the outfall screening, and scheduling of the outfall screening activities (Chapter 3.3.A).

2. **Outfall Screening** consists of pre-screening to determine whether dry-weather flows are present and outfall inspection which includes field-testing and grab samples to determine whether pollutants are present in any observed dry-weather flows (Chapter 3.3.B).

3. **Follow-Up Investigation and Program Evaluation** are the steps necessary to determine the source of any identified pollutant flows and eliminate them. The major follow-up investigation and program evaluation components (Chapter 3.3.C.) include:

- reviewing and assessing outfall inspection results,
- internal coordination,
- conducting detailed storm sewer investigations to identify pollutant sources (*tracing*),
- exercising the appropriate legal means to achieve enforcement of the program objective (*removal of pollutants at the source*), and evaluating the program to determine whether subsequent screening activities are necessary.

3.3.D.1 Program Planning

The program planning component is primarily office work related to assembling the necessary information and equipment for efficiently conducting outfall-screening activities. This component of the program addresses the following issues (see **Figure 3**).

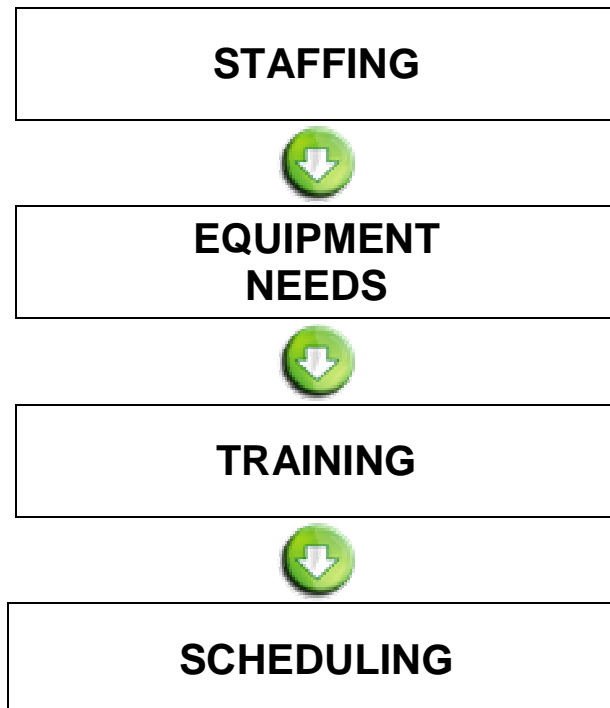


Figure 3: Program Elements

3.3.D.1.a STAFFING



Personnel for an outfall inspection screening program are required for program administration, effort for conducting the outfall screening, and any follow-up investigations. Typically, a two-member Public Works crew is required for the outfall screening and follow-up portions of the program. Based on the number of identified outfalls and program goals, it is anticipated that a two-member crew will be required to perform inspections at least several weeks throughout the year for the first 5-year period.

3.3.D.1.b EQUIPMENT NEEDS



General field equipment and specialized outfall screening equipment are required for IDDE programs. The method of collecting and managing inspection screening data is driven by available technology. A complete list of recommend equipment and supplies is found on ***Stormwater Outfall Screening Equipment Checklist (Appendix 5.2)***. Field Crews carry basic safety items, such as cell phones, surgical gloves, and first aid kits.

3.3.D.1.c TRAINING

Applicable Public Works personnel shall thoroughly read and understand the objectives of the IDDE subchapters of this manual. Applicable field personnel shall have completed a standard training session. It is recommended that applicable Public Works personnel accompany a Public Works supervisor on at least two outfall inspections to learn the use of the ***Stormwater Outfall Inspection Data Form (Appendix 5.3)*** and the use of sampling equipment and test kits. As a training exercise, new Public Works personnel should independently conduct outfall screening activities until two outfall screening data forms are accurate and consistent with the Public Works supervisor investigator's forms.

3.3.D.1.d SCHEDULING

Scheduling for pre-screening or outfall inspections is dependent on staff availability and weather. Pre-screening generally takes place during the late summer or fall months, ideally in August, September, or October, although other summer or fall months may be acceptable, depending on weather conditions. This time period is generally warm, which improves field efficiency as well as reliability and consistency of field-testing. This time period is also more likely to have extended dry periods with little or no precipitation, which is required for the inspection activities.

In order to ensure that samples collected are representative of dry-weather flows, conduct pre-screening and follow-up inspections preceding a dry-weather period, a period of 72 hours of dry weather. A period of 72 hours is selected to allow local detention facilities to drain and local groundwater flows to recede after precipitation events. However, some

judgment may be exercised in evaluating the 72 hour period to sampling. For example, if very light rain or drizzle occurred and no runoff was experienced, it is likely that dry-weather conditions would exist and outfall inspection could be conducted.

3.3.D.2 *Outfall Inspection Procedure*



The identification of potential illicit discharge locations is primarily a two part process, pre-screening and follow-up inspections. Pre-screening is performed by a rapid inspection of all outfalls in a pre-determined area such as along a receiving water. Follow-up inspections are required for those pipes found to have dry weather flow. Once probable illicit discharges are found, identify the sources of illicit discharges and correct per the removal procedure of Chapter 3.3.C.4. Outfall inspection consists of the following tasks:

- Pre-Screening
- Outfall Inspection Setup,
- Outfall Inspection,
- Outfall Assessment and Documentation, and
- Daily closeout.

3.3.D.2.a PRE-SCREENING

Pre-screening consists of a rapid inspection of outfalls, during dry weather flow conditions. Pre-screening was completed by the Village in the Summer of 2009. During pre-screening outfalls are inspected; outfalls observed to have dry weather flow are documented. Pre-screening results can be seen by viewing the insert Outfall Inventory Database name/location; outfalls with dry weather flows shall be scheduled for an outfall inspection. It is recommended that each outfall be re-screened every 5 years.

3.3.D.2.b OUTFALL INSPECTION SETUP AND PRECAUTIONS

In this step, an attempt is made to visualize the outfall locations and anticipate any potential problems that could affect the days screening activities. Of particular concern in daily setup is whether any safety issues will be associated with the day's screening

activities. For example, does traffic need to be controlled or is access to the outfall difficult. Before leaving an outfall inspection location, field crews must ensure that all necessary equipment is available, operable, and calibrated (as appropriate).

Safety is the primary consideration while inspecting upstream sampling locations. In general, the rule “*if in doubt, **don’t***” is followed. Latex gloves are worn while collecting and handling samples. A first aid kit is included in each vehicle to treat minor injuries. Obtain medical help for major injuries as soon as possible. Report all injuries, minor and major to appropriate persons.

Access to Private Property



In some cases, it may be necessary for Public Works or Engineering personnel to enter or cross private property to investigate discovered illicit discharges. A form letter should be prepared that includes a short description of the project, the purpose of the access to the property, and the name of a project contact person with a telephone number. Attempt to contact each home, or business, owner for permission. Public Works and Engineering personnel shall have identification indicating that they are municipal employees. If the owner is not present, a letter should be left at the premises to facilitate return inspection. If permission to access property is denied, a public official should then contact the owner at a later date.

Avoid confrontational situations with citizens and attempt to answer questions concisely and without being alarmist. Public Works and Engineering personnel should be coached on appropriate responses to questions from citizens. If a field crew feels uncomfortable or threatened, they should remove themselves from the situation and report to the incident to their supervisor.

Traffic



All traffic control measures are to be in accordance with the requirements of the *Manual on Uniform Traffic Control Devices* and other internal Policies and Procedures as set forth by the Engineering and Public Works Departments.

In general, the following additional policies are applicable. Public Works personnel generally work on streets only during the hours of 7 a.m. to 3:30 p.m. except in emergency situations. All field crews are required to wear Personal Protection Equipment (PPE) in accordance with Standard Operating Procedures set forth by the Public Works Department.

Confined Space Entry

Confined space entry for this program would include climbing into or inserting one's head into a pipe, manhole, or catch basin. In general, do not cross the vertical plane defining an outfall pipe or the horizontal plane defining a manhole, unless properly prepared for confined space entry. **IN NO CASE SHALL FIELD CREW MEMBERS WHO ARE UNTRAINED AND/OR UNEQUIPPED FOR CONFINED SPACE ENTRY ATTEMPT TO ENTER CONFINED SPACES.** Confined space entry shall be conducted only by trained personnel with appropriate rescue and monitoring equipment.

Other Hazards

Table 5: Other Outfall Inspection Hazards

Hazard	Prevention
Access	Avoid steep slopes, dense brush and deep water. Report unsafe locations and move on to next location.
Stuck	Avoid wading where bottom sediments are easily disturbed or depths are unknown.
Strong Gas/Solvent Odor	Do not select manhole for sampling
Bodily Harm From Manhole Covers	Use manhole hook and watch for pinch points
Slip	Proper Foot Gear and Use of Rope If Warranted
Falls	Use extended sample collection device; don't cross horizontal or vertical plane at end of outfall
Heat and Dehydration	Adequate Water Intake; Avoid Excessive Exertion on Hot Days
Sunburn	Sunscreen and Appropriate Clothing
Poisonous Plants/Animals	Identify and Avoid
Vicious Dogs	Avoid; Use Animal Repellent if necessary
Water Bodies	Flotation Devices
Ticks	Check Entire Body at End of Each Day
Mosquitoes	Apply Repellent

Test Kit Analysis Safety

In general, safety procedures established by the Public Works Department and the USEPA Industrial User Inspection and Sampling Manual for POTWs and related IEPA publications are used. Following are general guidelines.

1. Appropriate gloves (latex or rubber) are worn AT ALL TIMES when handling samples or conducting test kit analyses. Other appropriate Personal Protection Equipment (PPE) is also be worn, as required.
2. Copies of Material Safety Data Sheets (MSDS) are maintained with all test kits. Be familiar with instructions provided in the MSDSs.
3. Always conduct test kit analyses in a well-ventilated area.
4. Wash hands thoroughly with soap and water at every opportunity.

3.3.D.2.c OUTFALL INSPECTION



An outfall inspection is required for outfalls determined to have dry weather flow, or with submerged outlets, based on the pre-screening efforts. Upon arriving at an outfall, the field crew inspects the outfall by approaching the outfall on foot to a proximity that allows visual observations to be made.

Outfalls are assessed to determine which one of the three following conditions applies:

- (1) The outfall is dry or damp with no observed flow,
- (2) Flowing discharges are observed from the outfall, or
- (3) The outfall is partially or completely submerged with no observed flow or is inaccessible.

Scenario 1: No Observed Flow. Under Scenario 1, the field crew should photograph the outfall and complete applicable sections of the ***Stormwater Outfall Inspection Data Form (Appendix 5.3)***. Use the flow chart, **Figure 7**, to identify applicable sections of the form that must be filled out.

Scenario 2: Observed Flow. Under Scenario 2, the field crew photographs the outfall and complete applicable sections of the ***Stormwater Outfall Inspection Data Form (Appendix 5.3)***. Use the flow chart, **Figure 7**, to identify applicable sections of the form that must be filled out, including sampling/testing requirements. The intent is to gather additional information to determine if an illicit discharge is present. Determine the need for on-site testing and obtaining grab samples for laboratory analysis based on the flow chart guidance. Testing results are then used to identify potential sources.

The initial testing results are not intended to document the event for future removal and/or enforcement actions. If the preliminary test results identify a potential illicit discharge an

independent laboratory shall be contracted to test an additional sample prior to initiating removal procedures.

Scenario 3: Submerged or Inaccessible Outfall. Under Scenario 3, if standing water is present in an outfall or if it is inaccessible, then complete available information from Sections 1, 2, 3 and 7 of the **Stormwater Outfall Inspection Data Form (Appendix 5.3)**, with appropriate comments being written in the “Remarks” section of the data form. Locating an upstream sampling point may be required if any of the following conditions exist at an outfall:

- The outfall discharge is submerged or partially submerged due to backwater conditions,
- Site access and safety considerations prevent sample collection,
- The outfall is from a facility providing water quality treatment (for example, detention basin outlet), or
- Other special considerations.

Determine the upstream sampling location using the Village’s storm sewer atlas. Manholes, catch basins, or culvert crossings can be used for upstream sampling locations. Make reasonable efforts to locate upstream sampling points that are accessible and exhibit flow. If inaccessible, resolve the problem in the office with appropriate supervisory personnel.

 <p>Submerged: More than ½ below water</p>	 <p>Partially submerged: Bottom is below water</p>	 <p>Fully submerged: Can't see outfall</p>
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 <p>Outfall fully submerged by debris</p>	 <p>Fully submerged from downstream trees trapping debris</p>	 <p>Partially submerged by leaf debris "back water"</p>
 <p>Trickle Flow: Very narrow stream of water</p>	 <p>Moderate Flow: Steady stream, but very shallow depth</p>	 <p>Significant flow (Source is a fire hydrant discharge)</p>

Figure 6: Characterizing Submersion and Flow
Center for Watershed Protection

3.3.D.2.d OUTFALL ASSESSMENT AND DOCUMENTATION

Complete the ***Stormwater Outfall Inspection Data Form (Appendix 5.3)*** for all outfall screening and grab sampling activities. All completed forms must be dated, legible, and contain accurate documentation of each outfall inspection. A separate data form must be completed for each outfall. It is recommended that non-smearing pens be used to complete the forms and that all data be objective and factual. Once completed, these data forms are considered accountable documents and are maintained as part of the the Village files. In addition to standard information, the data form is used to record other information that is noted at the time the outfall inspection is conducted (e.g. observations of dead or dying plants, fish kills, algal blooms (excessive algae growth), construction activities, and other activities that might provide information regarding the potential for illicit connections or inappropriate discharges).

3.3.D.2.e DAILY CLOSEOUT

Disposal and Clean-up



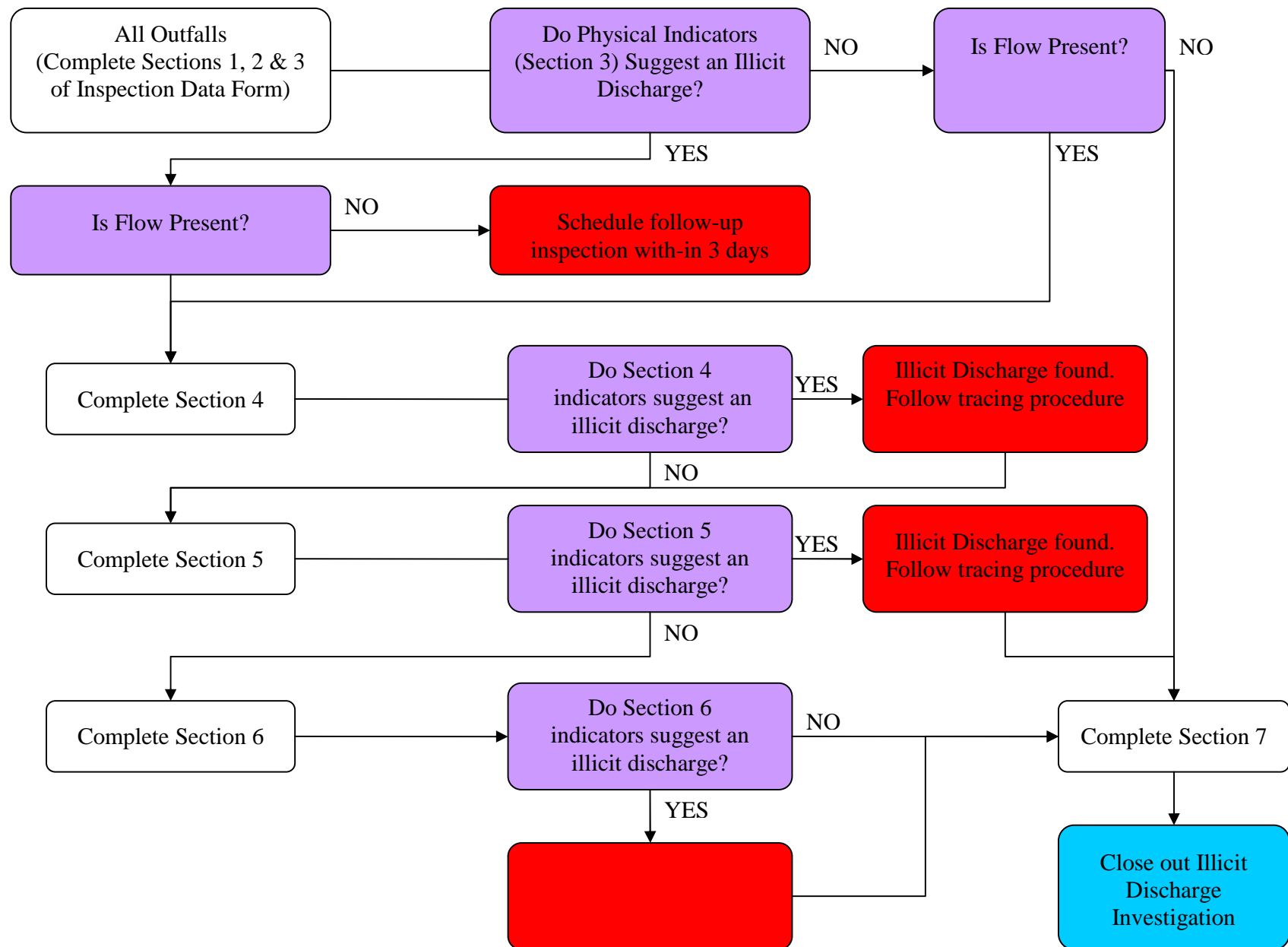
Properly dispose of test waste items per the following table. Before leaving any field inspection site, check the area to ensure that all equipment has been cleaned, collected, and stored. Do not leave any trash or litter at the site.

Item	Field Disposal	Final Disposal
Grab Sample (Uncontaminated)	On Site	-----
Grab Sample (Contaminated by Contact with Test Kit Ampoule)	Liquid Waste Container	Sanitary Sewer
Test Kit Ampoule	Used Ampoule container	Dispose of Container as a Hazardous Waste
Paper Towels/ Latex Gloves	Trash Bags	Municipal Garbage

Office Closeout

In the office, file copies of completed data forms. Also, update the outfall screening scheduling and completion form and plan the next screening day's activities. Discuss any problems locating outfalls with appropriate supervisory personnel so that alternate sampling locations can be identified. Once a month, compile data from the **Stormwater Outfall Inspection Data Form (Appendix 5.3)** onto the **Outfall Inspection Screening Summary Form (Appendix 5.5)**.

Figure 7: Outfall Inspection Procedure Flow Chart



3.3.D.3 Follow Up Investigation and Program Evaluation

Follow up investigation is required for all outfalls with positive indicators for pollutant discharges. The outfall assessment results are reviewed to determine the magnitude of the dry-weather pollution problem and to determine the necessary steps to identify and remove the sources of any detected pollutants. **Figure 8** provides a flow chart to aid in follow-up investigations of potential illicit discharges.

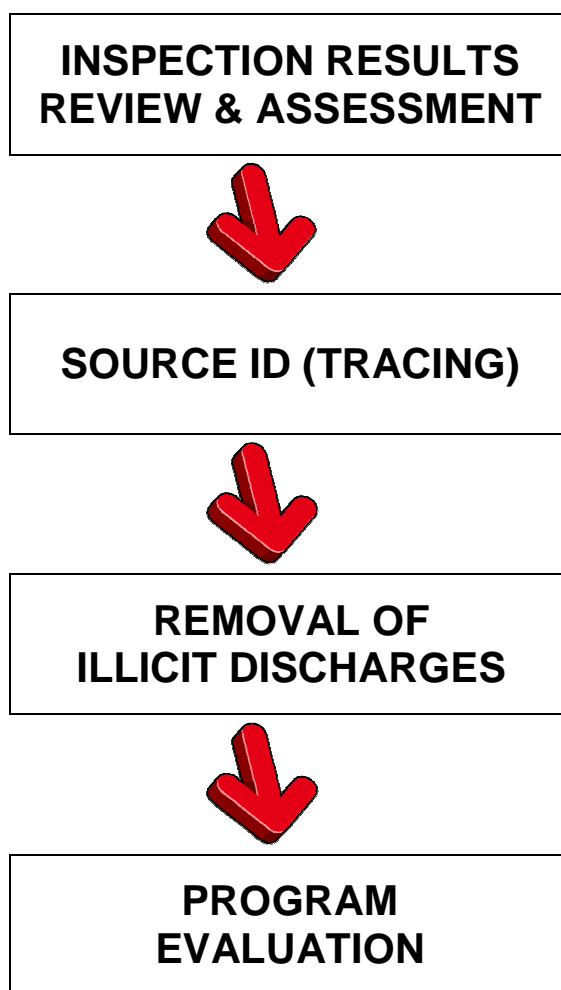


Figure 8: Follow Up Procedure

3.3.D.3.a OUTFALL SCREENING RESULTS REVIEW AND ASSESSMENT

Detailed investigations of the storm sewer system may be required upstream of the outfalls to locate sources of illicit discharges or improper disposal. The need for detailed investigations is based on evaluation of the data from the initial outfall screening. This element of the program serves to detect and remove pollutant sources. This is accomplished by reviewing the ***Outfall Inspection Screening Summary Form (Appendix 5.5)*** to determine if there are outfalls that require a follow up investigation, target sewer system areas for detailed investigation and then conducting intensive field investigations upstream of the polluted outfall to identify potential sources.



3.3.D.3.b INDEPENDENT VERIFICATION

If the initial outfall assessment identifies potential illicit discharges (through either the on-site or off-site testing procedures), additional sampling is required. The results of the inspection and testing should be discussed with the Stormwater Coordinator. Contract an independent laboratory to take and test an additional sample and verify preliminary finding. Use the established procedure to coordinate the independent laboratory sample and testing.

3.3.D.3.c SOURCE IDENTIFICATION

Follow up investigation is required for all outfalls with positive indicators for pollutant discharges during the pre-screening efforts. The procedure for detailed storm sewer investigation and source identification has three major components: 1) mapping and evaluation, 2) storm sewer investigation, and 3) tracing.

Mapping and Evaluation

For each outfall to be investigated, a large-scale working map should be obtained (digitally or in paper form) that includes the entire upstream storm sewer network, outfall locations and parcel boundaries indicated. This map product is based on information from the storm sewer atlas and outfall map and can be obtained from the Village's Engineering Department. Land use information is evaluated to determine the types of residential, commercial, and industrial areas that might contribute the type of pollution identified at the outfall.

If the contributing area is determined to be non-residential, the available Industrial/Business information should also be reviewed. The pre-treatment inspection, performed by the Public Works or Engineering Department, typically indicates

chemicals located on-site at each business. Business Types, at the time of the SMPP creation, include:

- Assembly,
- Automotive,
- Bank-Loans,
- Car Wash,
- Church,
- Contractor,
- Food Processing (Pet, Candy),
- Government/School,
- Grocery Store,
- Health Club/Gym,
- Landscaping/Nursery,
- Laundromat/Dry Cleaning,
- Manufacturing,
- Meat Packing,
- Medical/Dental/Pharmaceutical,
- Office,
- Printing/Photography,
- Recreations/Park District,
- Residential (Single and Multi-Family),
- Restaurants/Bars,
- Retail,
- Salon/Barber Shop,
- Utility, and
- Warehouse/Distribution.

Make attempts to match detected indicators with upstream activities.

Storm Sewer Investigation

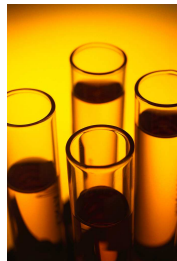


After conducting the mapping evaluation, a manhole-by-manhole inspection is conducted to pinpoint the location of the inappropriate discharge, into the storm sewer / conveyance system. This inspection requires a field crew to revisit the outfall where the polluted dry-weather discharge was detected. The field crew should be equipped with the same testing and safety equipment and follow similar procedures as used during the outfall inspection.

After confirming that dry-weather flow is present at the outfall, the field crew continues moving to the next upstream manhole or access point investigating for dry weather flow. In cases where more than one source of dry-weather discharge enters a manhole, the field crew records this information on the screening form and then tracks each source separately. All sources are tracked upstream, manhole-by-manhole, until the dry-weather discharge is no longer detected. Finally, the last manhole where dry-weather flow is present is identified and potential sources to that manhole are accessed. This data is important for source identification.

The field crew should also determine whether there has been a significant change in the flow rate between manholes. If the flow rate appears to have changed between two manholes in the system, the illicit connection likely occurs between the two manholes. Changes in the concentration of pollutant parameters could also aid in confirming the presence of an illicit connection between the two manholes.

Tracing



Once the manhole inspection has identified the reach area, between two manholes suspected of containing an inappropriate discharge, testing may be necessary. If there is only one possible source to this section of the storm sewer system in the area, source identification and follow-up for corrective action is straightforward. Multiple sources, or non-definitive sources, may require additional evaluation and testing in order to identify the contributing source. The method of testing must be approved by the Public Works Director prior to testing. Potential testing methods include fluorometric dye testing, smoke testing, and/or remote video inspections. Once identified, clearly log the contributing source.

3.3.D.4 *Removal of Illicit Discharges*

Removal of illicit discharge connections is required at all identified contributing sources. Eight steps are taken to definitively identify and remove an inappropriate discharge to the storm sewer system. These steps are as follows:

- Step 1. Have an outside laboratory service take a grab sample and test for the illicit discharge at the manhole located immediately downstream of the suspected discharge connection.
- Step 2: Conduct an internal meeting with appropriate personnel likely including Public Works Personnel, Public Works Director, Building Department

Code Enforcement Officer, and Stormwater Coordinator to discuss inspection and testing results and remedial procedures.

- Step 3: The Public Works Administration shall send a notification letter to the owner/operator of the property/site suspected of discharging a pollutant. The letter should request that the owner/operator describe the activities on the site and the possible sources of non-stormwater discharges including information regarding the use and storage of hazardous substances, chemical storage practices, materials handling and disposal practices, storage tanks, types of permits, and pollution prevention plans.
- Step 4: Arrange a meeting for an inspection of the property with Public Works Personnel, the Building Department Code Enforcement Officer, and the owner/operator of the property where the pollution source is suspected. Most illicit connections and improper disposal can probably be detected during this step. Notify the site owner/operator of the problem and instruct them to take corrective measures.
- Step 5: Conduct additional tests as necessary if the initial site inspection is not successful in identifying the source of the problem. The Public Works Director is responsible for determining the appropriate testing measure to pinpoint the source.
- Step 6: If the owner/operator does not voluntarily initiate corrective action, the Building Department Code Enforcement Office issues a notification of noncompliance. The notification includes a description of the required action(s) a time frame in which to assess the problem and take corrective action. Upon notification of noncompliance, the owner can be subject to any penalties stipulated in the IDDE Ordinance.
- Step 7: Conduct follow-up inspections after stipulated time frame has elapsed to determine whether corrective actions have been implemented to: 1) remove the illicit connection or 2) eliminate the improper disposal practice.
- Step 8: If corrective actions have been completed (i.e. and the illicit discharge has been eliminated) the Public Works Director sends a notification of compliance letter to the owner/operator of the property/site suspected of discharging a pollutant.

If corrective actions have not been completed an additional internal meeting with appropriate Village personnel (likely including involved Public Works Personnel, Public Works Director, Building Department Code Enforcement Officer, and Stormwater Coordinator) is held to determine appropriate steps to obtain compliance. Appropriate actions may include monetary or other penalties.

Table 6: NPDES-Identified Industrial Facilities

SIC Code	Description
	Facilities subject to stormwater effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR Subchapter N (except facilities with toxic pollutant effluent standards that are exempted).
1000-1400	Mineral industry, including active and inactive mining operations, with exceptions, and certain oil and gas exploration, production, processing, or treatment operations or transmission facilities.
2400	Lumber and wood products except furniture (except 2434-wood kitchen cabinets)
2600	Paper and allied products (except 2650-paperboard containers and boxes from purchased paperboard and 2670-converted paper and paperboard products)
2800	Chemicals and allied products (except 2830-drugs)
2900	Petroleum refining and related industries (except discharges subject to 40 CFR 419)
3110	Leather tanning and finishing
3200	Stone, clay, glass, and concrete products (except discharges subject to 40 CFR 419)
3300	Primary metal industries
3441	Fabricated structural metal
3730	Ship and boat building and repair
	Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under Subtitle C of RCRA
	Landfills, land application sites, and open dumps that receive or have received any industrial wastes, including those that are subject to regulation under Subtitle D of RCRA
	Facilities involved in the recycling of materials, including metal scrap yards, battery reclaimers, salvage yards, and automobile junkyards, including, but not limited to, those classified as SIC codes 5015 (used motor vehicle parts) and 5093 (scrap and waste materials).
	Stream electric power generating facilities including coal handling sites
	Transportation facilities with vehicle maintenance shops, equipment cleaning operations, or airport deicing operations (except facilities with SIC codes 4221 through 4225) (only those portions of the station that are either involved in vehicle maintenance including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or that are otherwise identified as an industrial station.
	Construction activity including clearing, grading, and excavation activities except: operations that result in the disturbance of less than 5 acres of total land that are not part of a larger common plan of development or sale
THE FOLLOWING CODES REQUIRE A NPDES PERMIT IF CERTAIN ACTIVITIES ARE EXPOSED TO SW	
2000	Food and kindred products manufacturing or processing
2100	Tobacco products
2200	Textile mill products
2300	Apparel and other finished products made from fabrics and similar materials
2434	Wood kitchen cabinets
2500	Furniture and fixtures
2650	Paperboard containers and boxes
2670	Converted paper and paperboard products
2700	Printing, publishing, and allied industries
2830	Drugs
2850	Paperboard containers and boxes
3000	Rubber and miscellaneous products
3100	Leather and leather products (except 3110-leather tanning and finishing)
3230	Glass products, made of purchased glass
3400	Fabricated metal products, except machinery and transportation equipment (except 3441-fabricated structural metal)
3500	Industrial and commercial machinery and computer equipment
3600	Electronic and other electrical equipment and components, except computer equipment
3700	Transportation equipment (except 3730-ship and boat building and repairing)
3800	Measuring, analyzing, and controlling instruments; photographic, medical, and optical goods; watches and clocks

3900	Miscellaneous manufacturing industries
4221-25	Farm products warehousing and storage, refrigerated warehousing and storage, general warehousing and storage

3.3.D.5 *Program Evaluation*

Review the results of the screening program to examine whether any trends can be identified that relate the incidence of dry-weather flow observations to the age or land use of a developed area. Experience gained from the USEPA NPDES program indicates a lower chance of observing polluted dry-weather flows in residential and newer development areas, while older and industrial land use areas having a higher incidence of observed dry-weather flows. See **Table 6** for areas that may be more likely to exhibit dry-weather flows. Examine the screening results to determine whether any such obvious conclusions can be made. If so, these conclusions may guide future outfall screening activities.

Outfalls with positive indicators of potential pollution are investigated to identify upstream pollutant sources. Identified illicit direct connections must be eliminated. However, new sources may appear in the future as a result of mistaken cross connections from redevelopment, new-development or remodeling. Indirect or subtle discharges such as flash dumping are difficult to trace to their sources and can only be remedied through public education and reporting. Therefore, it is expected that to some degree they will continue although at a reduced magnitude and frequency. Although the outfall screening program will be successful in identifying and eliminating most pollutants in dry-weather discharges, the continued existence of dry-weather flows and associated pollutants will require an ongoing commitment to continue the outfall screening program.

The annual inspection screening will determine the effectiveness of the program on a long-term basis and show ongoing improvement through a reduced number of outfalls having positive indicators of potential pollutants. It is logical to assume that after several years of annual screening, the majority of the dry-weather pollution sources will be eliminated.

3.4 Construction Site Runoff Control



The goal of the Lake County Watershed Development Ordinance (WDO) is to ensure that new development does not increase existing stormwater problems or create new ones. The WDO establishes countywide standards for runoff maintenance, detention sites, soil erosion and sediment control, water quality, wetlands and floodplains. These provisions are only applicable for regulated development activities as defined by the WDO. Applicants that hydrologically disturb greater than 1-acre are also required to seek coverage under the statewide construction general permit by filing a Notice of Intent (NOI) with IEPA.

The WDO is implemented primarily at the local level. In October of 2008, forty-two of fifty-three municipalities in the county were "Certified Communities." The designation allows those communities to enforce WDO standards within their own jurisdictions.

The Village of Antioch has adopted the Lake County Watershed Development Ordinance (WDO) and is currently a Certified Community for the review, permitting, inspection and enforcement of the provisions of the WDO. The community designates an Enforcement Officer; this person is responsible for the administration and enforcement of the WDO. The Village has created an Inspection and Violation Notification Procedure to ensure compliance with the WDO.

3.4.A Regulatory Program

Applicants are directed to Engineering Department for information pertaining to the permitting process. Developments that exceed the WDO minimum thresholds are provided with a Lake County Watershed Development Ordinance (WDO) application form. Applicants submit the completed form and supporting documentation to the Engineering Department for review and comment. After the Engineering Department concurs that the applicable provisions of the WDO have been addressed, a permit is issued. Each permit lists any additional conditions that are applicable to the development.

Ordinance provisions include but are not limited, to the following:

- Grading, soil erosion and sediment control plan. The plan must:
 - Prevent discharge of sediment from the site through the implementation of soil erosion control practices, primarily, and sediment control secondarily, and
 - Protect receiving waters, natural areas and adjacent properties from damage which may result from the proposed grading.
- Waste control;
- Runoff Volume Reduction Hierarchy and Water Quality;
- Established inspection duties for the applicant and procedures for inspections;
- Record keeping and reporting procedures;
- Security deposits to ensure faithful performance;
- Enforcement measures to achieve compliance; and
- One year warranty period, for applicable developments.

The Lake County Technical Reference Manual and the Illinois Urban Manual 2002, or as amended, include detailed guidance on selection and implementation on related best management practices.

As part of the permit review process, applicants that hydrologically disturb greater than 1-acre are also required to seek coverage under the statewide construction general permit by filing a Notice of Intent (NOI) with IEPA. During construction, applicants are required to submit to IEPA Incidence of Noncompliance (ION) forms, as necessary. After the site is substantially stabilized, the applicant is required to submit a Notice of Termination (NOT).

3.4.B Responsible Parties

3.4.B.1 Applicant

The applicant is ultimately responsible for ensuring compliant soil erosion and sediment control measures on-site during construction. General contractors, sub-contractors and other hired employees of the applicant can assist the applicant in maintaining a compliant site; however the applicant remains the responsible party. The applicant is also responsible for obtaining all other required state and federal permits, including an NOI with IEPA and upholding all permit conditions (including completing inspection logs).

3.4.B.2 DECI – Designated Inspectors

The purpose of the DECI program is to facilitate positive communication between the Village and the permit holder by creating a single point of contact for soil erosion/sediment control issues with the idea that it is easier to prevent soil erosion and sediment control problems than it is to correct them after they have occurred. Further,

the program is intended to improve site conditions, minimize environmental impacts, and educate contractors/developers/inspectors about proper soil erosion/sediment control Best Management Practices.

The applicant, for sites that exceed the WDO thresholds per Art. IV, Section B.1.j.2., is required to hire or employ a Designated Erosion Control Inspector (DECI).

- All development with 10 acres or more of hydrologic disturbance
- All development with 1 acre or more of hydrologic disturbance **and** regulatory floodplain **or** wetlands on site or on adjoining properties.

The DECI can work for the permittee's contractor, subcontractor, consultant, etc. He does not have to be a direct employee of the permittee. SMC keeps a list of DECIs that have been approved.

The DECI has the responsibility to conduct inspections as required, document inspections, keep inspections and project plans available on site, report noncompliance issues promptly, recommend soil erosion/sediment control measures. Assuming the DECI is competently completing these steps, the DECI is considered to meet the requirements of the program. Ultimately, liability for a development in noncompliance may fall to the owner, the applicant, the contractor, the developer, the DECI, or anyone else involved as determined on a case by case basis.

Sites that do not require a DECI may still require a designated inspector under the NPDES II permit process. Significant efforts have been made to minimize overlap between the two programs. Currently all sites with greater than 1-ac or more of hydrologic disturbance require a permit from IEPA and a designated inspector (which is more stringent than the DECI requirements). A designated inspector, under the IEPA program, does not need to be a DECI recognized by SMC; however a DECI can fulfill both rolls. However, the site inspection logs can typically meet the permit conditions of both the WDO and the IEPA.

The DECI reports to the Enforcement Officer. However, SMC administers the DECI program. During the course of a project, the DECI must notify the EO within any if the development site is determined to be noncompliant with the soil erosion and sediment control plan. The Village's Stormwater Coordinator should also be contacted within 24-hours. It is highly recommended that the Stormwater Coordinator remind the DECI to also file an Incidence of Noncompliance (ION) with IEPA. If the discharge from the construction site enters a receiving water within the MS4 jurisdictional boundaries, it is highly recommended that the MS4 also file an ION with IEPA.

3.4.B.3 *Enforcement Officer*

The Enforcement Officer is responsible for administration and enforcement of the provisions of the WDO. Additionally, the Enforcement Officer is responsible for performing inspections and monitoring the development. Review and inspection efforts can be performed by personnel under his/her direct supervision. A full description of the

EO responsibilities is included in Appendix E of the WDO. The EO follows established procedures for notifying applicants of deficiencies and obtaining site compliance (i.e. enforcement).

It is also both the right and the responsibility of the Enforcement Officer to ensure that all incidences of non-compliance received from a DECI are resolved. Furthermore it is the Enforcement Officer's right and the responsibility to notify the SMC if a DECI listed by SMC is not adequately performing the DECI responsibilities. SMC may remove a DECI from the approved DECI list. However, a DECI may be removed from a development by the Enforcement Officer at their sole discretion.

3.4.C Minimum Construction Site Practices

A site plan is required to comply with minimum prescribed practice requirements set forth in the WDO. The WDO also allows for the Village to require additional measures, above and beyond minimum control measures, to prevent the discharge pollutants from construction sites. Design and implementation guidance is available in the Lake County Technical Reference Manual (TRM) and other reference materials identified in Appendix 5.17 of the SMPP.

Some minimum control measures include the following:

- Construction site sequencing and phasing,
- Preservation of existing vegetation and natural resources (through the runoff volume reduction hierarchy provisions),
- Stormwater conveyance systems (including concentrated flows, diversions, etc.),
- Stockpile management,
- Soil erosion control measures (including blanket and seeding),
- Stabilized construction entrances/exits and haul routes,
- Sediment Control (including silt fence, inlet/outlet protection, ditch checks, sediment traps, sediment basins etc.),
- Wind and Dust control measures,
- Non-stormwater management (including dewatering practices, waste management practices, spill prevention and control practices etc.),
- Construction Buffers, and
- Construction Details.

3.4.D Site Plan Review

The Village is a certified community for the enforcement of the Stormwater Provisions of the WDO. The Engineering Department provides applicants with a variety of documents necessary to obtain municipal permits. Included in the packet is relevant Watershed Development Permit (WDP) information including the performance guarantee information and WDP application form.

The Engineering Department performs a review of the proposed site plan and provides comments to the applicant on any plan deficiencies and/or recommended plan enhancements. The plan review also assists in identifying other approvals that the applicant may be required to obtain. After the Engineering Department concurs that the applicable provisions of the WDO have been addressed a permit is issued. The permit lists any additional conditions that are applicable for the development, including providing prior notification of the pre-construction meeting to the Village. Village attendance of the pre-construction meeting shall be made a condition of the permit for all major developments. The applicant is required to post the permit at the construction site.

3.4.E Site Inspection Procedures

Representatives of the Village of Antioch are authorized to enter upon any land or water to inspect development activity and to verify the existing conditions of a development site that is under permit review.

The Village may inspect site development at any stage in the construction process. For major developments, the Village shall conduct site inspections, at a minimum, at the end of the construction stages 1 and 7 listed below. Construction plans approved by the Enforcement Officer shall be maintained at the site during progress of the work. Recommended inspection intervals are listed below:

1. Upon completion of installation of sediment and runoff control measures (including perimeter controls and diversions), prior to proceeding with any other earth disturbance or grading,
2. After stripping and clearing,
3. After rough grading,
4. After final grading,
5. After seeding and landscaping deadlines,
6. After every seven (7) calendar days or storm event with greater than 0.5-inches of rainfall,
7. After final stabilization and landscaping, prior to removal of sediment controls.

Site Inspection Process:

- The Village attends the pre-construction meeting on applicable development sites. During the pre-construction meeting the ***Pre-Construction Meeting Form (Appendix 5.6)*** is filled out by the Village attendee. It is also recommended that the inspector request to see the SMPP and IEPA NOI for applicable construction sites.
- The applicant notifies the Village when initial sediment and runoff controls measures have been installed.
- The Village inspects the initial sediment and runoff control measures and authorizes the start of general construction.
- The Village inspects the stormwater management system and authorizes additional site improvement activities.
- The Village performs site inspections at the recommended intervals listed above and completes the ***SE/SC Inspection Form (Appendix 5.7)***.
- For sites that exceed the WDO thresholds per Art. IV, Section B.1.j.2. a DECI is required, refer to Chapter 3.4.B.2 for additional information regarding the program.
- The Village requires as-built documentation of the stormwater management system prior to final site stabilization. Tags of the seed mixes are kept by the developer for inspection and approval. Upon approval of the as-builts, the applicant shall permanently stabilize the site.

3.4.F Complaints

The Village frequently receives phone calls regarding a development, either during the review or construction phase. Both site design and construction related phone calls are directed to the Village's Enforcement Officer, or designee, and logged. Site design comments are handled on a case by case basis. Construction related calls are typically addressed by performing a site inspection.

3.4.G Performance Guarantees

Pre-construction meeting – No deposit required.

Performance Guarantee (surety) is required for public improvements (i.e. sewer, water, right-of-way work), stormwater management system and landscaping. The Engineers Opinion of Probable Construction Cost (EOPCC) is provided to the Village for their review/approval. The required surety amount shall be 110% of the Village approved EOPCC. In cases where the SMC requires a surety the Village will only hold a surety for the portions of the EOPCC that is not being held by SMC. Alternatively, the Village will provide SMC with a letter indicating that the the Village will hold the surety and not reduce the surety amount until SMC approval has been obtained.

The Village will hold 5% of the surety for a minimum of 1-yr after site stabilization is complete to ensure that the vegetation is established and no failures occur. For sites with native vegetation, this portion of the surety will be held for a minimum of three (3) years after site stabilization. The applicant may apply for reductions of surety. Refer to the Subdivision Ordinance for information regarding the surety requirements.

3.4.H Violation Notification Procedures

In general the compliance due date should be within 5-working days. However, if the inspector determines that the violation is or will result in significant environmental, health or safety hazards a 24-hour due date should be set. For time-critical violations, the developer should also be advised to complete a Notice of Incidence report with IEPA for all sites that were required to obtain an NOI with IEPA. If the discharge from the construction site enters a receiving water within the MS4 jurisdictional boundaries, it is highly recommended that the MS4 also file an ION with IEPA.

The **SE/SC Inspection Form** is found in **Appendix 5.7**. Step 1 can be initiated by observation of a violation during a routine inspection, or in response to a notice of noncompliance received from a DECI.

Step 1: Violation Is Observed

- The inspector completes the **SE/SC Inspection Form**.
- Photographs of the violation(s) should be taken and saved.
- The Violation shall be described to the construction site contact.
- A copy of the **SE/SC Inspection Form** is provided to the contractor and the developer. The **SE/SC Inspection Form** indicates the remedial measures required and a maximum time frame for action.
- At the end of the indicated time frame the Village performs a follow-up site inspection. The inspector attempts to schedule the follow-up inspection with the construction site contact.

Step 2: 1st Follow-Up Site Inspection

The construction site contact shall be notified of the anticipated inspection time. The site is inspected including all items previously documented on the previous **SE/SC Inspection Form**. The inspector will determine if the remedial measures have all been satisfactorily addressed, substantially completed, or if significant non-compliance remains.

- If the remedial measures have been satisfactorily addressed then the **SE/SC Inspection Form** is filled out indicating compliance and provided to the contractor and developer.

- If the inspector determines that the remedial measures have been substantially completed, but not entirely resolved, the inspector shall follow Step 1 above.
- If the inspector determines that the remedial measures have not been substantially completed, the inspector shall follow Step 3 discussed below. Photographs of the violations should be taken and saved.

Step 3: 1st Notice of Violation

A formal **Notice of Violation** letter will be sent to the contractor and developer; see sample letter in **Appendix 5.8**. A copy of the Notice of Violation shall also be provided to the Building Department. The letter will include the following information.

- Description of the violations (including ordinance provisions),
- Mandatory remedial measures, and
- Maximum time frame for resolution (typically 5 working days),

Step 4: 2nd Follow-Up Site Inspection

The inspector will determine if the remedial measures have all been satisfactorily addressed, substantially completed, or if significant non-compliance remains.

- If the remedial measures have been satisfactorily addressed then the **SE/SC Inspection Form** is filled out indicating compliance and provided to the contractor and developer.
- If the inspector determines that the remedial measures have been substantially completed, but not entirely resolved, the inspector shall follow Step 1 above.
- If the inspector determines that the remedial measures have not been substantially completed, the inspector shall follow Step 3 discussed below. Photographs of the violations should be taken.

Step 5: 2nd Notice of Violation

Depending on the severity of the outstanding violations the inspector may issue a Red Tag and a Conditional Stop Work Order upon completion of the inspection. The Stop Work Order allows for the resolution of the violation but no other on-site improvements. Building and/or Occupancy Permits will not be issued and surety reductions will not be entertained until the violation is resolved. A formal **Notice of Violation** letter will be sent, via certified mail, to the contractor and developer; see sample letter in **Appendix 5.8**. A copy of the Notice of Violation shall also be provided to the Building Department. The letter will include the following information.

- Description of the violations (including ordinance provisions),
- Mandatory remedial measures, and
- Maximum time frame for resolution (typically 5 working days).

Step 6: 3rd Follow-Up Site Inspection:

The inspector will determine if the remedial measures have all been satisfactorily addressed, substantially completed, or if significant non-compliance remains.

- If the remedial measures have been satisfactorily addressed then the **SE/SC Inspection Form** is filled out indicating compliance and provided to the contractor and developer.
- If the inspector determines that the remedial measures have been substantially completed, but not entirely resolved, the inspector shall follow Step 1 above.
- If the inspector determines that the remedial measures have not been substantially completed, the inspector shall follow Step 3 discussed below. Photographs of the violations should be taken and saved.

Step 7: 3rd Notice of Violation

The inspector issues a Red Tag and a Conditional Stop Work Order upon completion of the inspection, if one has not already been issued. The Stop Work Order allows for the resolution of the violation but no other on-site improvements. Building and/or Occupancy Permits will not be issued and surety reductions will not be entertained until the violation is resolved. Representatives from the Building and Engineering Departments shall conduct an internal meeting to discuss the violation and subsequent actions. These actions may include: issuing fines at a rate of \$500/day per violation since the 1st notice of violation; draw from surety to enable the Village to have the remedial measures corrected; seeking the Village consul and pursuing injunctive or other legal relief.

A formal **Notice of Violation** letter will be sent, via certified mail, to the contractor and developer; see sample letter in **Appendix 5.8**. A copy of the Notice of Violation shall also be provided to the Building Department and the Village Administrator. The letter will include the following information.

- Request a meeting with the applicant/development and the Village staff;
- Description of the violations (including ordinance provisions),
- Mandatory remedial measures,
- Maximum time frame for resolution (typically 5 working days), and
- States additional penalties or measures that will be imposed if the violation(s) persist.

3.4.I BMP Reference Information

Reference information includes, but is not limited to, the following sources:

- Native Plant Guide,
- Lake County SMC's Technical Reference Manual,
- Illinois Urban Manual,
- SMC's
 - soil erosion and sediment checklist,
 - soil erosion and sediment control notes,
 - typical construction sequencing,
- Chicago Metropolitan Agency for Planning (previously Northeastern Illinois Planning Commission) Course Manuals,
- IDOT manuals,
- Center for Watershed Protection documents, and
- IEPA and USEPA publications.

3.4.J Construction Site Waste Control

The WDO includes several provisions that address illicit discharges generated by construction sites. The applicant is required to prohibit the dumping, depositing, dropping, throwing, discarding or leaving of litter and construction material and all other illicit discharges from entering the stormwater management system.

3.4.K Development Tracking

{Omitted}

3.4.L Pavement Projects

Pavement resurfacing and maintenance projects are determined through pavement evaluation studies that take place approximately every year. Project work shall follow IDOT Standard Specifications and applicable provisions of the WDO. At a minimum, protect drainage structures with inlet filter bags during construction activities.

3.5 Post Construction Runoff Control



The Village of Antioch complies with NDPES permit requirements by incorporating Ordinance and BMP standards to minimize the discharge of pollutants of development projects.

This chapter describes how the compliance with stormwater discharge permit requirements for long-term post-construction practices that protect water quality and control runoff flow is achieved.

This SMPP creates and references extensive policies and procedures for regulating design and construction activities for protecting receiving waters. The design and construction site practices selected and implemented by the responsible party for a given site are expected to meet BMP measures described through the Lake County Technical Reference Manual and IEPA's Program recommendations. All proposed permanent stormwater treatment practices must be reviewed and approved by the Enforcement Officer.

3.5.A Regulatory Program

The WDO includes numerous performance standards on Grading, Stormwater and Soil Erosion/Sediment Control that must be met for all parties undertaking construction. The Lake County Technical Reference Manual is a guidance tool that describes BMP and implementation procedures for enforcing the WDO.

3.5.B Runoff Volume Reduction Hierarchy

The WDO includes performance standards which require that the site plan include a combination of structural and/or non-structural BMPs that will reduce the discharge of pollutants, the volume and velocity of storm water flow to the maximum extent

practicable. The permittee should ensure that the development plan addresses these provisions during the plan review process.

3.5.C Green Infrastructure

Each permittee should adopt strategies that incorporate storm water infiltration, reuse and evapotranspiration of storm water into the project to the maximum extent practicable. Site plan design and review should ensure that the development plan incorporates green infrastructure or low impact design techniques when possible. Types of techniques include green roofs, rain gardens, rain barrels, bio-swales, permeable piping, dry wells and permeable pavement.

3.5.D Long Term Operation and Maintenance

The SMPP includes two long term maintenance plans. These sample maintenance plans are included in **Appendix 5.14**.

- The first plan is the recommended plan for existing detention and stormwater management facilities, whether publicly or privately maintained. The intent of this sample plan is to provide guidance for the maintenance of facilities that do not have an approved plan. If an existing facility already has an adequate plan adequate; this document would supersede the sample plan. Attempts should be made to provide the sample maintenance plan to pre-WDO sites with stormwater management facilities.
- The second plan is provided to applicants during the permit review period. This plan should be reviewed and enhanced by the applicant to reflect the sites specific design. Receipt of the signed and recorded maintenance plan is required prior to issuance of the WDP or listed as a permit condition

3.5.E Site Inspections

The inspection program for its general facilities is discussed in detail in Chapter 3.6.A. The inspection procedure for site inspections related to construction activities is discussed in detail in Chapter 3.4.E. This section focuses on post-construction inspections of previously developed sites, streambanks / shorelines, streambeds, and detention / retention ponds.

3.5.E.1 Previously Developed Sites

The Village attempts to inspect approximately 20% of all existing properties with stormwater management facilities a year; resulting in a re-occurrence inspection interval of every 5-years.

- Previously accepted developments are inspected with respect to the approved maintenance plan. A letter indicating the maintenance activity highlights,

deficiencies or additional enhancements to the plan should be provided to the responsible party.

- For older developments that do not have a maintenance plan, the Village inspects facilities with respect to the sample existing facilities maintenance plan. A letter indicating the maintenance activity highlights and deficiencies should be provided to the responsible party. The sample maintenance plan is provided with the letter and the responsible party is encouraged to implement an annual maintenance program.

3.5.E.2 Shorelines



The Village annually inspects 20% of detention basin shorelines in the spring and/or fall pending weather conditions. Pond locations are listed on the **Detention/Retention Pond Checklist (Appendix 5.9)**. Observed erosion, seeding/re-seeding or slope stabilization needs are documented. Documented deficiencies should be reported to the Stormwater Coordinator who evaluates and determines appropriate remediation activities. Remedial actions might include notifying the property owner or including maintenance activities in the Village's work program.

New developments are required to provide a maintenance plan for constructed detention/retention facilities. The recorded maintenance plan for developments permitted through the Lake County Watershed Development Ordinance (WDO) is used, if available, for shoreline areas. Typical BMP for maintenance of these areas are similar to those for a construction site. SMC's streambank/shoreline stabilization manual is used as a starting point in choosing the appropriate BMP for remediation activities.

3.5.E.3 Streambanks and Stream Bed Sediment Accumulation

Annually inspect 20% receiving water streambanks for erosion and flowlines for sediment plumes. Inspections should be performed in the spring and/or fall pending weather conditions. Stream locations are depicted on **Figure 1**. Document observed erosion and/or sediment accumulation. Documented deficiencies should be reported to Stormwater Coordinator who evaluates and determines appropriate remediation

activities. Remedial actions might include notifying the property owner or including maintenance activities in the Village's work program.

3.5.E.4 Detention / Retention Pond Sediment Accumulation

Ensure that new detention/retention ponds are over excavated during construction to account for sediment accumulation. The developer is responsible for ensuring that the design grade is established prior to the Village's acceptance of the pond. Pond information, including the design permanent pool pond depths, is added to the **Detention/Retention Pond Checklist (Appendix 5.9b)** upon acceptance of the pond.

Annually inspect 20% of detention basins to determine the permanent pool pond depth. Log observed depths onto the **Detention/Retention Pond Checklist (Appendix 5.9b)**. If the inspected pond depth is found to be 2 feet or less from the design depth (i.e. shallower than the design permanent pool depth) this information should be reported to Stormwater Coordinator who evaluates and determines appropriate remediation activities.

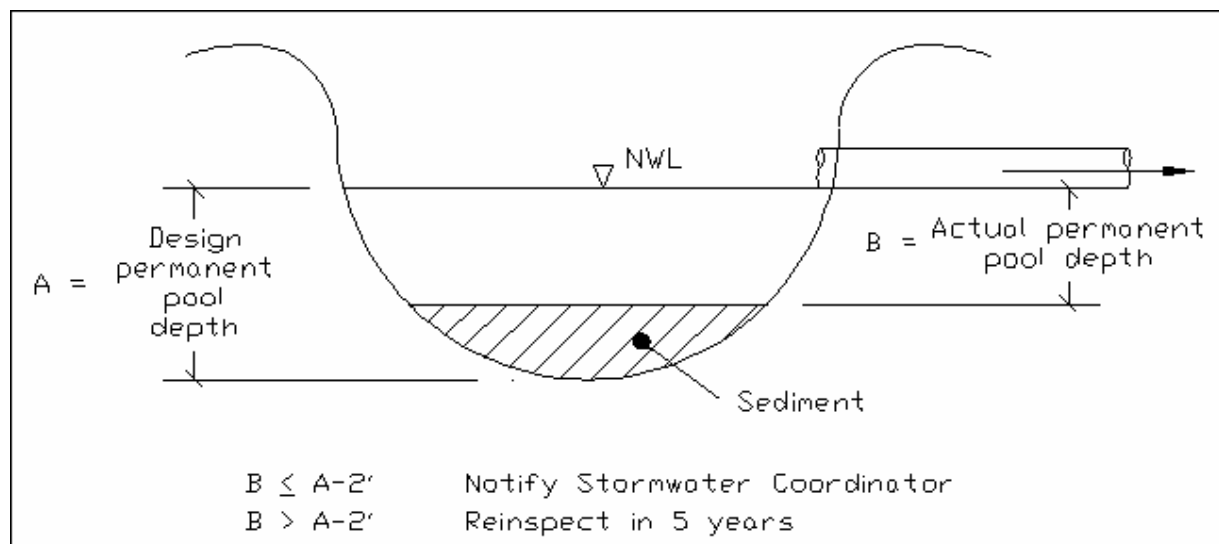


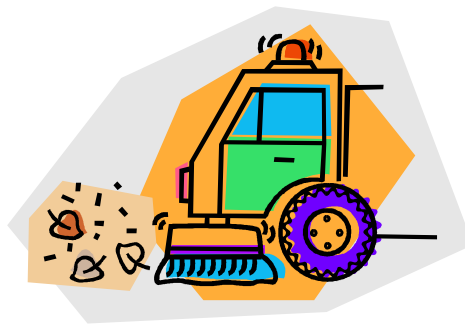
Figure 9: Pond Sediment Accumulation

3.6 Pollution Prevention and Good Housekeeping



The Village is responsible for the care and upkeep of the general facilities, municipal roads, its general facilities and associated maintenance yards. Many maintenance activities are most regularly performed directly by staff; however from time to time contractors are employed to perform specific activities. This chapter describes how the compliance with permit requirements is achieved by incorporating pollution prevention and good housekeeping stormwater quality management into day-to-day operations. On-going education and training is provided to ensure that all of its employees have the knowledge and skills necessary to perform their functions effectively and efficiently.

3.6.A Inspection and Maintenance Program



The following chapters describe areas/items that require inspection and their recommended inspection frequency. It further details recommended maintenance activities and subsequent tracking procedures for each of the tasks.

3.6.A.1 *Street Sweeping*

Street sweeping operations are performed to reduce potential illicit discharges and to provide a clean environment. The curb lines of all streets are cleaned on a rotating basis. The rotation maybe changed or interrupted if heavy rain occurs, the sweeper is out of order due to mechanical problems, or the Street Division experiences heavy workload. Each street is typically swept/cleaned approximately 2 to 4 times per year. Sweeper waste is collected and disposed of in the spoil waste area. The intended frequency of street sweeping operations is as follows:

- November to April – no sweeping due to winter operations/conditions
- April to November - two days a week

3.6.A.2 *Drainageways*

Drainageways include any river, stream, creek, brook, branch, natural or artificial depression, ponded area, lakes, flowage, slough, ditch, conduit, culvert, gully, ravine, swale, wash, or natural or man-made drainageway, in or into which surface or groundwater flows, either perennially or intermittently. Primary drainageways, include North Mill Creek, Sequit Creek, Hastings Creek, Lake Antioch, White Lake, McGrea Lake, Timber Lake, White Slough, Redwing Slough and Little Silver Lake. Minor drainageways include roadside and sideyard swales, overland flow paths, pond outlets, etc.

3.6.A.2.a POND OUTLETS

The ***Detention/Retention Pond Checklist (Appendix 5.9)*** is used to determine inspection locations. Structures are added to the checklist after new developments are approved and accepted. Locations identified on the checklists are inspected yearly and during large storm events, as applicable. Observed obstructions are cleared and debris hauled to the spoil waste area. Ponds are inspected and evaluated for a low, medium and high level of flood height according to the following classifications.

Flood Height Classification

- Low – Normal Water Level (NWL)
- Medium – NWL to top of grate
- High – Top of Grate and above

Condition

- Good – outlet is unimpaired, not blocked
- Fair –outlet obstructions observed although outlet is discharging
- Poor – outlet is blocked or obstructed

Comments

Note structural defects or other observances.

During and after large storm events, inspections continue until water level recedes to mid-pipe (Medium classification).

If maintenance work is required for a pipe culvert within the Village limits but in the State of Illinois right of way, the State's Maintenance Facility is notified. Similarly, the County of Lake, 847-362-3950, is contacted for work within their right of way.

3.6.A.2.b BOX CULVERTS AND BRIDGES

Box Culverts & Bridges are listed on the **Roadway Culvert/Bridge Checklist (Appendix 5.10)**. Structures are added to the checklist after new developments are approved and accepted. Locations identified on the checklists are inspected annually and during large storm events. Inspection procedures follow the Pond Outlet discussion above.

3.6.A.2.c DRIVEWAY CULVERTS

Maintenance and replacement of driveway culverts is the property owner's responsibility. A minimum 12" diameter culvert is required per Municipal Code. Permits are required for culvert replacement; a soil erosion and sediment control plan may be required as part of the permit. The Engineering Department inspects the culvert when it is set to grade and prior to backfilling.

3.6.A.2.d CATCH BASINS

Catch basin locations are identified on the **Storm Sewer Atlas**. The Public Works Department's goal is to annually clean approximately 20% of all catch basins, to a minimum sump depth of 2 feet. Spoil waste obtained from catch basin cleaning is disposed of in the spoil waste area. Locations of cleaned catch basins are tracked.

Catch basins found to have structural deficiencies are reported to the Engineering Department. Necessary remedial actions are completed by the Street Division or incorporated into a capital project. Catch basins that have been cleaned are tracked on the GIS data base.

3.6.A.2.e STORM SEWERS

If catch basin debris is at the invert elevation of the downstream pipe (i.e. has completely filled the sump area), then the downstream storm sewer system is also cleaned. Likewise, if a water main break or other heavy flow occurs that flushes potential illicit discharges into the storm sewer system, the receiving storm sewer lines are inspected and then cleaned as necessary.

3.6.A.2.f OTHER INLET AND GRATE CLEANING

Cleaning of these areas occurs on an as-needed basis (e.g. complaints, incidences, standing water, etc). Spoil waste that is obtained from inlet and grate cleaning or vacuuming is disposed of at is disposed of in the spoil waste area.

3.6.A.2.g SWALES AND OVERLAND FLOW PATHS

Right-of-way Drainage Swales: The Engineering Department documents observed or reported erosion or sediment accumulation. Areas of significant concern are incorporated into a maintenance program.

Privately Owned Drainage Swales (side/rear yard): Observed or reported erosion or sediment accumulation in privately owned swales are referred to the Engineering Department for follow-up. Engineering Department notifies the property owner on an as needed basis for appropriate remediation required.

3.6.A.3 *Landscape Maintenance*



The Village maintains care and upkeep of its general facilities, municipal roads, associated maintenance yards, and other public areas. Municipal staff is responsible for Litter and Debris control described in Chapter 3.6.A.4.a below. The Village Public Works Department is also responsible for Village landscape maintenance.

3.6.A.3.a LITTER AND DEBRIS

Litter and debris can accumulate on the Village property and roadway right-of-ways and should be removed. Public Works is responsible for the clean-up of their facilities. Clean-up at park and recreation areas is also the responsibility of the Public Works Department. Other Village properties and right-of-ways (including municipal, Township, County and State right-of-ways within the MS4 limits) are cleaned by Public Works personnel or volunteer groups on an as-needed basis.

3.6.A.3.b PRIVATE RESIDENCE YARD WASTE

Yard waste from private residences is collected through contract. Yard waste is collected weekly from April 15 through November 30.

3.6.A.3.c FERTILIZERS

The use of pesticides and fertilizers shall be managed in a way that minimizes the volume of storm water runoff and pollutants. The Village has banned the use of phosphorus fertilizers.

3.6.A.4 *Snow Removal and Ice Control*



During snow removal and ice control activities, salt, abrasives and snow melt may pollute stormwater runoff. To address these potential pollutants, the following procedures for the “winter season” (November 1 through May 1) are implemented.

3.6.A.4.a ROADWAY ICE CONTROL

Use the minimal amount of salt and additives necessary for effective control. Prior to November 1, preparation work to obtain seasonal readiness is completed. These tasks include: inspecting and re-conditioning of spreaders and spinners, install these items onto snow removal vehicles, performing test operations, calibrating distribution rates per National Salt Institution Application Guidelines, and conducting better driver training. The completion of these preparatory tasks helps to ensure that only the necessary level of salt is applied.

3.6.A.4.b SALT DELIVERY AND STORAGE

Steps are taken to ensure that the delivery, storage and distribution of salt does not pollute stormwater runoff from the Public Works Complex. The floor of the salt storage building and adjacent receiving/unloading area are constructed of asphalt or concrete. Delivered salt is unloaded at the entrance to the salt storage building. The limits of the salt pile are pushed back from the door opening to minimize potential illicit runoff.

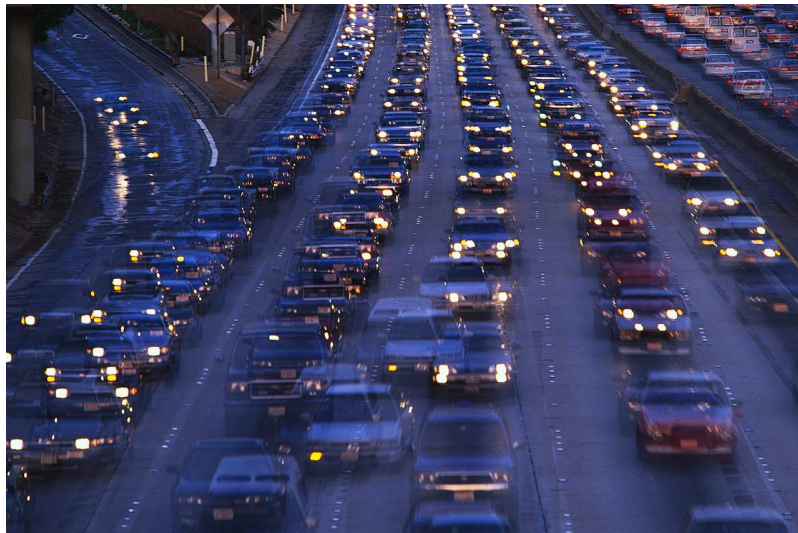
3.6.A.4.c SNOW PLOWING

Snow plowing activities direct snow off the pavement and onto the parkways. This reduces the amount of salt, abrasives or other pollutants that go directly into the storm sewer system. When deemed necessary, the Public Works Department hauls accumulated snow to designated stockpile locations. Snow blowing, plowing or dumping into drainageways is not allowed. Once the snow has melted, the stockpile areas are cleaned with a street sweeper, if possible, removing any debris deposited.

3.6.A.5 *Pet Waste*

{Omitted}

3.6.A.6 *Vehicle and Equipment Operations*



Vehicle and equipment fueling procedures and practices are designed to minimize or eliminate the discharge of pollutants to the stormwater management system, including receiving waters.

3.6.A.6.a VEHICLE FUELING

The vehicle fueling area contains above ground diesel and gas. In the future, these fuel tanks are to be eliminated.

3.6.A.6.b VEHICLE MAINTENANCE

Vehicle maintenance procedures and practices are designed to minimize or eliminate the discharge of petroleum based pollutants to the stormwater management system, including receiving waters. This chapter discusses proper handling and disposal of vehicle maintenance by-products such as waste oil, antifreeze, batteries and tires.

Waste Oil

Used motor oil, transmission fluids, gear lubes, brake fluids and other vehicle fluids (except antifreeze) are collected and stored in a tank outside the Public Works Maintenance Garage. Typically, the waste oil tank is emptied and the contents removed for recycling.

Antifreeze

The village's waste haul contractor takes used oil and antifreeze if mixed with waste oil for disposal as required.

Batteries

Used batteries are stored in an enclosed container at the Public Works Maintenance Garage. Typically, the batteries are picked up by a vendor as needed.

Tires

Used tires are disposed of, as required, to a tire recycler in Wisconsin. Tires are stored outside at the Public Works Complex until picked up for disposal.

Other

Private certified companies perform all air-conditioning related work; therefore, the disposal of freon is not handled directly by the Village.

3.6.A.7 *Animal Nuisance Control*

The Public Works Department, upon receiving notification, collects "road kill" from right-of-way areas. The carcasses are disposed of in the Public Works Complex garbage dumpsters.

3.6.A.8 Waste Management



Waste Management consists of implementing procedural and structural practices for handling, storing and disposing of wastes generated by a maintenance activity. This helps prevent the release of waste materials into the stormwater management system including receiving waters. Waste management practices include removal of materials such as asphalt and concrete maintenance by-products, excess earth excavation, contaminated soil, hazardous wastes, sanitary waste and material.

3.6.A.8.a SPOIL STOCK PILE

The spoil stock pile is located at the Public Works Complex. Asphalt and concrete maintenance by-products and excess earth excavation materials are temporarily stored in the stock pile. Public Works personnel remove and dispose the contents of the spoil stock pile at a licensed landfill as needed. Surface runoff from this area is largely contained by concrete barriers.

3.6.A.8.b CONTAMINATED SOIL MANAGEMENT

Collect or manage contaminated soil/sediment generated during an emergency response or identified during construction activities for treatment or disposal. Attempts are made to avoid stockpiling of the contaminated soil. If temporary stock piling is necessary, place the stockpile on an impermeable liner. Additionally, BMP (presented in the SMC's Technical Reference Manual or the Illinois Urban Manual) are used to protect the downslope of the stockpiled area for erosion downstream. Locate the construction access on the upstream side of the temporary stock pile.

3.6.A.8.c HAZARDOUS WASTE

Store all hazardous wastes in sealed containers constructed of compatible material and labeled. The containers are located in non-flammable storage cabinets or on a containment pallet. These items include paint, aerosol cans, gasoline, solvents and other hazardous wastes. Please refer to chapter 3.6.A.7 for vehicle related hazardous wastes. Do not overfill containers. Paint brushes and equipment used for water and oil-

based paints are cleaned within the designated cleaning area. Contain associated waste and other cleaning fluids within an enclosed tank, the tank is maintained by a private licensed special waste company.

3.6.A.8.d SANITARY WASTE

Discharge sanitary waste into a sanitary sewer or managed by a licensed waste hauler.

3.6.A.8.e TRIPLE BASINS

Floor drains in the garage bay floor area of the Public Works Complex are directed to an underground Triple Basin. At a minimum, the Triple Basin are vacuumed out and completely cleaned yearly.

3.6.A.9 *Water Conservation & Irrigation*



Water conservation practices minimize water use and help to avoid erosion and/or the transport of pollutants into the stormwater management system. During periods of dry weather, sprinkling restrictions and bans are enforced. The water main replacement program decreases the possibility for water main leaks. In the event that a water main leak occurs, valve off the leaking section as soon as possible and then repair.

3.6.A.10 *Green Infrastructure*

{omitted}

3.6.B Spill Response Plan



Spill prevention and control procedures are implemented wherever non-hazardous chemicals and/or hazardous substances are stored or used. These procedures and practices are implemented to prevent and control spills in a manner that minimizes or prevents discharge to the stormwater management system and receiving waters. The following general guidelines are implemented, when cleanup activities and safety are not compromised, regardless of the location of the spill:

- Cover and protect spills from stormwater run-on and rainfall, until they are removed,
- Dry cleanup methods are used when ever possible,
- Dispose of used cleanup materials, contaminated materials and recovered spill material in accordance with the Hazardous Waste Management practices or the Solid Waste Management practices of this plan,
- Contaminated water used for cleaning and decontamination shall not be allowed to enter the stormwater management system,
- Keep waste storage areas clean, well organized and equipped with appropriate cleanup supplies, and
- Maintain perimeter controls, containment structures, covers and liners to ensure proper function.

3.6.B.1 Non-Hazardous Spills/Dumping

Non-hazardous spills typically consist of an illicit discharge of household material(s) into the street or stormwater management system. Upon notification or observance of a non-hazardous illicit discharge, Public Works personnel implement the following procedure:

- Sand bag the receiving inlet to prevent additional discharge into the storm sewer system, as necessary. It may be necessary to sand bag the next downstream inlet.

- Check structures (immediate and downstream). If possible, materials are vacuumed out. The structure(s) are then jetted to dilute and flush the remaining unrecoverable illicit discharge.
- Clean up may consist of applying “Oil Dry” or sand and then sweeping up the remnant material.
- After containment and cleanup activities have been performed, the on-site Public Works personnel fills out the **Spill Response Notice (Appendix 5.12)** and distributes to adjoining residences/businesses. In residential areas, the hanger should be provided to residences on both sides of the spill and on both sides of the street.
- Public Works personnel document the location, type of spill and action taken on the **Indirect Illicit Discharge Tracking Form (Appendix 5.13)**.
- The on-site Public Works personnel provide the tracking form to their supervisor. The supervisor, or his designee, takes the information from the form and transfers it to the **Indirect Illicit Discharge Summary Form (Appendix 5.13)**.
- If a person is observed causing an illicit discharge, Engineering Department is notified and appropriate citations issued by the Police Department.

3.6.B.2 Hazardous Spills

Upon notification or observance of a hazardous illicit discharge, Public Works follows the following procedure:

- Call 911, explain the incident. The Fire and Police Department respond;
- Police or Public Works provides emergency traffic control, as necessary;
- The Fire Department evaluates the situation and applies “No Flash” or “Oil Dry” as necessary;
- The Fire Department’s existing emergency response procedure, for hazardous spill containment clean-up activities, is followed;
- Public Works documents the location, type of spill and action taken on the Indirect Illicit Discharge Tracking Form (**Appendix 5.13**); and,
- The on-site Public Works personnel provide the tracking form to their supervisor. The supervisor, or his designee, takes the information from the form and transfers it to the **Indirect Illicit Discharge Summary Form (Appendix 5.13)**.

3.6.C Employee Training



The Village's practice is to provide education and training to all of its employees to ensure that they have the knowledge and skills necessary to perform their functions effectively and efficiently. The purpose of the Employee Stormwater Training Program is to teach appropriate employees about the following:

- Stormwater characteristics and water quality issues;
- The roles and responsibilities of the various Departments, and individuals within these Departments, regarding implementation of the SMPP to consistently achieve Permit compliance;
- Activities and practices that are, or could be sources, of stormwater pollution and non-stormwater discharges; and,
- How to use the SMPP and available guidance materials to select and implement best management practices.

3.6.C.1 Training Approach

Employees are encouraged to attend all relevant training sessions offered by the QLP and other entities on topics related to the goals/objectives of the SMPP. Additionally, the Village will develop employee training programs with curricula and materials tailored to specific functional groups. Refer to **Table 7**. The materials focus on stormwater pollution prevention measures and practices involved in routine activities carried out by the various functional groups. Training materials primarily focus on revisions to the various programs (that were in place prior to the acceptance of the SMPP).

Table 7: Employee Responsibilities

Functional Group	Area of Responsibility	Members
Planning and Design	Responsible for overseeing the development and implementation of best management practices through the project planning and design phase for construction projects.	Engineering Department
Construction	Responsible for overseeing the implementation of best management practices relating to the construction stage of projects (private and public).	Engineering Department
Maintenance	Responsible for development and implementation of best management practices relating to the maintenance of facilities, infrastructure and properties.	Public Works Department

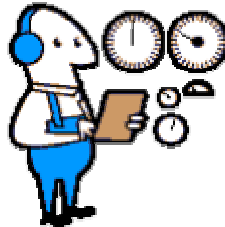
3.6.C.2 *Training Schedule and Frequency*

The initial training program will be offered within 6 months of the acceptance of the SMPP. Digital and hard copies of the training materials will be kept and shared with applicable new employees as part of their job introduction. Revisions/enhancements to the SMPP will be approved by the Stormwater Coordinator and then shared with applicable employees. The Stormwater Coordinator will monitor the potential need for overall refresher material distributions and offer additional training as necessary.

Employees are encouraged to share information with other employees via email or other formats. Information may include:

- updates and news which might enhance pollution control activities,
- feedback from field implementation of best management practices, or
- new product information.

4 Program and Performance Monitoring, Evaluation and Reporting



The SMPP represents an organized approach to achieving compliance with the stormwater expectations of the NPDES Phase II program for both private and public activities within the Village. Land development, redevelopment and transportation improvement projects were required to comply with the provisions of the WDO prior acceptance of the SMPP. Additionally, the Village had numerous written and unwritten procedures for various tasks. This SMPP documents and organizes previously existing procedures and incorporates the objectives of the WDO to create one cohesive program addressing pre-development, construction, post-development activities and municipal operations.

This chapter describes how the Village will monitor and evaluate the proposed stormwater pollution prevention plan based on the above stated objective. As part of the stormwater management program, the Village:

- reviews its activities,
- inspects its facilities,
- oversees, guides, and trains its personnel, and
- evaluates the allocation of resources available to implement stormwater quality efforts.

This chapter describes how program monitoring, evaluation and reporting will be accomplished.

4.1 Performance Milestones

Previously established ordinances and programs implement many of the anticipated tasks. The following schedule describes general performance expectations.

- Within 6 months following the acceptance of the SMPP, applicable employees will receive training regarding the implementation of the SMPP.

- Within 1 year following the acceptance of the SMPP, program enhancement items within Chapter 3 will be implemented, except for the IDDE program milestones discussed below. Refer to Chapter 2.1 for a description of tasks associated with the implementation of the SMPP.
- Within 3 years following the acceptance of the SMPP, the Outfall Inspection Procedure will be completed for all pipes identified, during the pre-screening efforts, as having dry weather flow.
- Within 5 years following the acceptance of the SMPP, tracing and removal procedures will be completed for all pipes identified, during the Outfall Inspection Procedure, as contributing illicit discharges to receiving waters.

4.2 Program Monitoring and Research

Currently water quality sampling/monitoring is not required under the NPDES Phase II program. Therefore, monitoring efforts focus on qualitative, not quantitative, examination of the stormwater practices. It is anticipated that the USEPA and IEPA programs will evolve to require water quality monitoring and sampling. Future efforts may involve collecting information on the characterization of discharges from outfalls, identifying other sources of pollutants, characterizing the receiving waters, sampling construction site discharges, identifying the performance of existing and potential enhanced stormwater pollution control measures. The Village will comply with future federal and state mandates.

The Stormwater Coordinator will monitor research conducted by others regarding the effectiveness of various alternative stormwater practices, procedures and technologies. The Village will continue to seek innovative stormwater practices and technologies. Information and guidance obtained through the MAC meetings and other sources will be incorporated into this SMPP as practical. This information will be used to provide insight into how the program may need to evolve.

4.3 Program Evaluation

The primary mechanism for evaluating the program and ensuring that the field staff has adequate knowledge is supervision by responsible managers. Management personnel include the Public Works Director, Engineering Supervisor and Village Administrator. Management support tasks include observing and evaluating design, construction and field personnel as they implement the requirements of the SMPP on both municipal and private projects, and maintenance personnel as they conduct their assigned activities. These responsibilities were outlined in detail in Chapter 2: Program Management.

The following types of questions/answers are discussed annually between the Stormwater Coordinator, Managers and field staff.

- Are proper stormwater management practices integrated into planning, designing and constructing both Village and private projects?
- Are efforts to incorporate stormwater practices into maintenance activities effective and efficient?
- Is the training program sufficient?
- Is the SMPP sufficient?
- Are the procedures for implementing the SMPP adequate?

5 Appendices

5.1 List of Acronyms

BMP	Best Management Practices
CWA	Clean Water Act
DECI	Designated Erosion Control Inspector
EO	Enforcement Officer (Lake County WDO)
HHW	Household Hazardous Waste
ID	Identification
IDDE	Illicit Discharge Detection and Elimination
IDOT	Illinois Department of Transportation
IEPA	Illinois Environmental Protection Agency
ION	Incidence of Non-compliance (with IEPA)
IUM	Illinois Urban Manual
LCDOT	Lake County Division of Transportation
LOC	Letter of Credit (surety)
MAC	Municipal Advisory Committee (Countywide)
MS4	Municipal Separate Storm Sewer Systems
NOI	Notice of Intent
NOT	Notice of Termination (with IEPA)
NPDES	National Pollutant Discharge Elimination System
PPE	Personal Protection Equipment
QLP	Qualify Local Program
SE/SC	Soil Erosion and Sediment Control
SMC	Lake County Stormwater Management Commission
SWALCO	Solid Waste Agency of Lake County
SMPP	Stormwater Management Program Plan
TAC	Technical Advisory Committee
TRM	Technical Reference Manual
USEPA	United States Environmental Protection Agency
WDO	Lake County Watershed Development Ordinance
WDP	Watershed Development Permit
WMB	Watershed Management Board

5.2 Stormwater Outfall Screening Equipment Checklist

STORM WATER OUTFALL SCREENING EQUIPMENT CHECKLIST		
Field Analysis		pH Testing Strips
		Chlorine Testing Strips
		Copper Test Strip
		Ammonia Test Strip
		Phenols Test Kit (Minimum of 15 Tests)
		Detergents Test Kit (Minimum of 15 Tests)
		Color Chart
		Thermometer
		Wash Bottle with Tap Water
Sampling		Extended Sampler
		250-ml and 500-ml glass sample containers with labels
		Cooler with ice or ice packs
Other		Outfall Screening Data Form (Minimum of 10)
		Outfall Sampling Report (Minimum of 10)
		Clipboard and Pens
		Resident Form Letters (Minimum of 10)
		Training Manual
		Storm Sewer Atlas
		Digital Camera
		Flashlight
		Manhole Cover Hook
		Tape Measure
		Folding Rule
		Brush Clearing Tool
		Plastic Trash Bags
		Paper Towels
Safety (PPE Equipment)		Traffic Cones/Flags/Light Sticks
		Traffic Safety Vest
		First Aid Kit
		Steel-Toe Boots
		Work Gloves
		Safety Glasses/Goggles
		Rubber Boots
		Disposable Gloves (Latex)
		ID Badge
Personal (supplied by employee if desired)		Insect Repellant
		Sunscreen

5.3 Stormwater Outfall Inspection Data Form

Section 1: Background Data

Subwatershed:	Outfall ID:	
Date:	Time (Military):	
Temperature:	Inspector(s):	
Previous 48 Hours Precipitation:	Photo's Taken (Y/N)	If yes, Photo Numbers:
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Open Space <input type="checkbox"/> Industrial <input type="checkbox"/> Institutional <input type="checkbox"/> Residential Other: _____ <input type="checkbox"/> Commercial Known Industries: _____	

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE		DIMENSIONS (IN.)	SUBMERGED
Storm Sewer (Closed Pipe)	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Clay / drain tile <input type="checkbox"/> Other: _____	<input type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box <input type="checkbox"/> Other: _____	<input type="checkbox"/> Single <input type="checkbox"/> Double <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: _____ _____	In Water: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
Open drainage (swale/ditch)	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____		Depth: Top Width: Bottom Width:	

Section 3: Physical Indicators

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling <input type="checkbox"/> Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other: _____	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other: _____	
Pipe algae/growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other: _____	
Do physical indicators suggest an illicit discharge is present (Y/N):			

Flow Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No Investigation	If No, Skip to Section 7 and Close Illicit Discharge
Flow Description	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial	

Section 4: Physical Indicators (Flowing Outfalls Only)

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Laundry <input type="checkbox"/> Other:	<input type="checkbox"/> 1-Faint	<input type="checkbox"/> 2 – Easily detected	<input type="checkbox"/> 3 – Noticeable from a distance
Color (color chart)	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange/Red <input type="checkbox"/> Multi-Color <input type="checkbox"/> Other:	<input type="checkbox"/> 1-Faint colors in sample bottle	<input type="checkbox"/> 2 – Clearly visible in sample bottle	<input type="checkbox"/> 3 – Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/> 1-Slight cloudiness	<input type="checkbox"/> 2 – Cloudy	<input type="checkbox"/> 3 – Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Suds and Foam <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Grease <input type="checkbox"/> Other:	<input type="checkbox"/> 1-Few/slight; origin not obvious	<input type="checkbox"/> 2 – Some; indications of origin	<input type="checkbox"/> 3 - Some; origin clear
Do physical indicators (flowing) suggest an illicit discharge is present (Y/N):					

Section 5: On-Site Sampling / Testing (Flowing Outfalls Only)

PARAMETER	RESULT	ACCEPTABLE RANGE	WITHIN RANGE (Y/N)	EQUIPMENT
Temperature		NA	NA	Thermometer
pH		6 – 9		5-in-1 Test Strip
Ammonia		<3 mg/L April – Oct < 8 mg/L Nov - March		Test Strip
Free Chlorine		NA	NA	5-in-1 Test Strip
Total Chlorine		< 0.05 mg/L		5-in-1 Test Strip
Phenols		< 0.1mg/L		Test Kit
Detergents as Surfactants		> 0.25 mg/L residential > 5 mg/L non-residential		Test Kit
Copper		<0.025 mg/L		Test Strip
Alkalinity		NA	NA	5-in-1 Test Strip
Hardness		NA	NA	5-in-1 Test Strip
Sample Location				

(Note NA values used for future tracing procedures)

Section 6: Data Collection for Lab Testing (see flow chart)

1. Sample for the lab?	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. If yes, collected from:	<input type="checkbox"/> Flow <input type="checkbox"/> Pool

PARAMETER	RESULT (from lab)	ACCEPTABLE RANGE	WITHIN RANGE (Y/N)
Fecal Coliform		400 per 100 mL	
Flouride		0.6 mg/l	
Potassium		Ammonium/Potassium ratio or > 20mg/l	

*note label sample with outfall number

Section 7: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

5.4 Outfall Sampling Report

Outfall Sampling Report

Structure ID #	Date:		
Outfall ID #	Time of Sample:		
Sampled By:	AM	PM	
Glass Bottle Size:	250 ml	500 ml	32 ml
Tests requested:	Flouride	Potassium	Fecal Coliform
Relinquished By:	Date:		
Comments:	Time:		
Received By:	Date:		
Comments:	Time:		
Relinquished By:	Date:		
Comments:	Time:		
Received By:	Date:		
Comments:	Time:		

5.5 Outfall Inspection Screening Summary Form

[illegible]

5.6 Pre-Construction Meeting Form

AGENDA **PRE-CONSTRUCTION CONFERENCE**

PROJECT: _____ CONFERENCE DATE: _____

CONTRACTOR: _____ Phone: _____

Project Manager: _____ FAX: _____

Site Superintendent: _____ Phone: _____

Cell/Pager: _____

ENGINEER: _____

Phone: _____

Project Manager: _____ FAX: _____

Field Representative: _____ Cell/Pager: _____

DECI: _____

Phone: _____ Fax: _____

Cell/Pager: _____

1. Welcome, Introductions, and Sign-in

2. Contract Dates

a. Start _____

b. Duration of Contract _____

c. Substantial Completion _____

d. Final Completion _____

3. Utilities

a. Water

b. Sewer

c. Electric (ComEd)

d. Comcast

e. Telephone (SBC)

f. Gas (Nicor/Northshore)

**Contact JULIE 1-800-892-0123

4. Permits
 - a. Water
 - b. Sewer (IEPA)
 - c. Building
 - d. Antioch Watershed Development
 - e. LCSMC Wetlands Development
 - f. IEPA / NPDES (Erosion Control)
 - g. LCDOT/IDOT
 - h. Easements
5. Contractors Insurance (Certificate of Insurance) Name Village of Antioch and Village Consultant as additionally insured.

Performance Guarantee
7. Reference Points/Surveying/Staking

Who provides: _____
8. Construction Schedule / Sequencing

Preliminary for first 30 days by _____
Sequencing
9. List of Subcontractors/Suppliers
10. Special Structures needing Shop Drawings
11. As-builts required at completion of project.
12. Operation and Maintenance of Existing Facilities

Utilities
Driveways
Construction entrance and silt fence etc.
13. Defective Work will be brought to contractor and general contractor attention as soon as seen or determined.
14. Traffic Control

Traffic Control Subcontractor: _____
15. Soil Erosion / Sediment Control
 - a. Floodplain/Floodway On/Adj. to Site (Y/N)
 - b. WOUS or IWLC On/Adj to Site (Y/N)
 - c. Initial SE/SC Inspection at PreCon (Y/N)
 - d. Village to receive weekly DECI Inspection Reports (Y/N)
 - e. Key Discussion Items/Areas of Focus

<input type="checkbox"/> Communication Chain	<input type="checkbox"/> Construction Entrance	<input type="checkbox"/> Detention/Sediment Basin
<input type="checkbox"/> Dewatering	<input type="checkbox"/> Ditch Checks/Silt Dikes	<input type="checkbox"/> Dust / Mud Control
<input type="checkbox"/> General Phasing	<input type="checkbox"/> Inlet Protection	<input type="checkbox"/> Inspection Log
<input type="checkbox"/> Overland / Offsite Drainage	<input type="checkbox"/> Perforated Riser	<input type="checkbox"/> Perimeter SE/SC BMPs
<input type="checkbox"/> Restrictor Plate/Structure	<input type="checkbox"/> Silt Fence (ASSHTO 288-00)	<input type="checkbox"/> Soil Stockpile Stabilization
<input type="checkbox"/> Stormwater Management System	<input type="checkbox"/> Stabilization Measures	<input type="checkbox"/> SWPPP on Site & Updated
<input type="checkbox"/> Stormwater System	<input type="checkbox"/> Vegetative Cover/Type	<input type="checkbox"/> Wetlands/Waters Protection

16. Temporary Facilities and Controls

Relocations (utilities, roadway, etc.)
Job trailer location, phone numbers, address,

17. Testing (by Whom?)

- | | |
|----------------------------|--------------------------|
| a. Materials | c. Sewer Installation |
| b. Water main Installation | d. Pavement construction |

18. Chain of Command (contacts)

Contractor
Consultant
Village of Antioch

19. Safety – OSHA/IDOT

20. Fire Protection / Police Department

21. Rescue Access

22. Work By Others

23. Progress Meetings

Weekly/Bi-weekly beginning _____

24. Easement Requirements

- | |
|-------------------------------------|
| a. Existing/Proposed |
| b. Construction Easements |
| c. Drainage Easements |
| d. Restoration/Staging of Materials |

25. Inspections

Special inspections

- a. By consultant and/or Village
- b. By DECI
- c. Date of next inspection _____

26. Working Hours

- a. Contractor construction (by Village Ordinance)
Mon-Sat: 7:00AM-7:00PM, Sunday and Holidays: 9:00AM – 6:00PM
- b. Engineering Office
Mon-Fri 8:30AM-4:00PM

28. Comments, Q&A

5.7 Soil Erosion and Sediment Control Inspection Form



STORMWATER MANAGEMENT COMMISSION

Field Observation Report

WDO Permit #	SMC Permit #	USACE Reference #	USACE Permit #	NPDES Permit #	NPDES Permit #
WDO Permit Issued To	WDO Permittee	Inspection Log Compliant	<input type="checkbox"/> Yes <input type="checkbox"/> No	SWPPP Compliant	<input type="checkbox"/> Yes <input type="checkbox"/> No
Community Name	Community Name	Enforcement Officer	E.O. Name	Observer:	Name of Inspector
Permitted Plan Information	Permitted Plan Set – date, title, # of sheets, etc.				
Date & Time of Inspection	Date & Time of Inspection	Weather Conditions	Weather & Temperature	24hr Rainfall	Inches of Rain
Reason for Inspection	<input type="checkbox"/> Weekly <input type="checkbox"/> Rain <input type="checkbox"/> Other (explain)		Stage of Construction	Pre-Construction	
Project Name	Project Name	Enforcement Officer Information	Enforcement Officer Name/Phone/Email		
Address/Location	Address/Location of the project site and the nearest intersection				
Field Contact Information	Field contact name and phone/Email	SE/SC Contractor Information	Primary SE/SC Contractor contact information		
DECI Information	Designated Erosion Control Inspector contact information				
In Attendance	Who attended inspection				
Disturbed Area	Area of Disturbance	Disturbed Area Permitted	Overall Permitted Disturbance	Site Area	Size of Site
Floodplain/Floodway On Site	<input type="checkbox"/> Yes <input type="checkbox"/> No	IWLC On Site/Adjacent	<input type="checkbox"/> Yes <input type="checkbox"/> No	WOUS On Site/Adjacent	<input type="checkbox"/> Yes <input type="checkbox"/> No
Floodplain/Floodway Impact	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	IWLC Impacted	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	WOUS Impacted	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Violation Correction Time	<input type="checkbox"/> 1 day <input type="checkbox"/> 3 day <input type="checkbox"/> 7 day <input type="checkbox"/> 10 day <input type="checkbox"/> 30 day <input type="checkbox"/> _____		Violation Rating	0 - No Violation <input type="checkbox"/> Notify E.O.	
Water Sample NTU Reading	____ NTUs <input type="checkbox"/> N/A	Photos Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No	Next Site Visit	Days until next inspection
Follow up Needed	Note follow up needed, ie: violation, E.O. notification, etc. - & who is responsible			Compliant <input type="checkbox"/>	Non-Compliant <input type="checkbox"/>
Copy Report To:	Note who should receive an email copy of this report				
Concrete Washout	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory <input type="checkbox"/> N/A		Construction Entrance/Pavement	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory <input type="checkbox"/> N/A	
Construction Sequencing	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory <input type="checkbox"/> N/A		Detention/Sediment Basin	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory <input type="checkbox"/> N/A	
Dewatering Facility	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory <input type="checkbox"/> N/A		Ditch Checks	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory <input type="checkbox"/> N/A	
Dust Control	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory <input type="checkbox"/> N/A		ECB/TRM Installation	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory <input type="checkbox"/> N/A	
Inlet Protection	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory <input type="checkbox"/> N/A		Offsite Tracking/Offsite Impacts	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory <input type="checkbox"/> N/A	
Perforated Riser	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory <input type="checkbox"/> N/A		Polyacrylamide Application	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory <input type="checkbox"/> N/A	
SE/SC Installation	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory <input type="checkbox"/> N/A		SE/SC Maintenance	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory <input type="checkbox"/> N/A	
Soil Stockpile Stabilized/Protected	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory <input type="checkbox"/> N/A		Stabilization Measures	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory <input type="checkbox"/> N/A	
Stormwater System (sewer, swale, etc.)	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory <input type="checkbox"/> N/A		Turbidity Curtain	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory <input type="checkbox"/> N/A	
Vegetative Cover	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory <input type="checkbox"/> N/A		Wetland Buffers Protected	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory <input type="checkbox"/> N/A	
Wetland/Waters Protection	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory <input type="checkbox"/> N/A		Other (not listed)	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory <input type="checkbox"/> N/A	
Observations:					

5.8 Sample Notice of Violation Letter

Date:

1ST NOTICE OF VIOLATION

Applicant Name
Company
Address
City, State and Zip

Subject: Project Name
Watershed Development Permit No. XXX-XX-XXX
1st Notice of Violation

Dear Permittee:

You are hereby notified of the following violation(s) to your Watershed Development Permit:

- ☐ Failure to notify the Village prior to construction.
- ☐ Failure to display Permit placard visible from street.
- ☐ Failure to install/maintain a non-erosive outlet from the structure to the watercourse (Art. IV, Sec. B.1.j.1.b).
Location(s) _____
- ☐ Failure to install/maintain soil erosion and sediment control features prior to the hydrologically disturbing upstream areas (Art. IV, Sec. B.1.j.1.c).
Location(s) _____
- ☐ Failure to install/maintain temporary or permanent seeding (Art. IV, Sec. B.1.j.1.d.).
Location(s) _____
- ☐ Failure to install/maintain sod (Art. IV, Sec. B.1.j.1.d.).
Location(s) _____
- ☐ Failure to install/maintain erosion control blanket (Art. IV, Sec. B.1.j.1.d.).
Location(s) _____
- ☐ Failure to install/maintain silt fence, meeting AASHTO Std. Spec 288-00 (Art. IV, Sec. B.1.j.1.f.i).
Location(s) _____
- ☐ Failure to install/maintain sediment traps (Art. IV, Sec. B.1.j.1.f.ii).
Location(s) _____
- ☐ Failure to install/maintain sediment basins with perforated filtered riser pipe (Art. IV, Sec. B.1.j.1.f.iii).
Location(s) _____
- ☐ Failure to install/maintain storm inlet protection (Art. IV, Sec. B.1.j.1.g).
Location(s) _____
- ☐ Failure to route dewatering services through an effective sediment control measure (Art. IV, Sec. B.1.j.1.h).
Location(s) _____

- ☐ Failure to install/maintain stabilized construction entrance. Failure to clean right of way/pavement. (Art. IV, Sec. B.1.j.1.j).
Location(s) _____
- ☐ Failure to install/maintain runoff diversion controls (Art. IV, Sec. B.1j.1.m).
Location(s) _____
- ☐ Failure to prevent erosion from stockpile, or the placement of stockpile in a flood-prone area, buffer, WOUS or IWLC (Art. Iv, Sec. B.1j.1.n).
Location(s) _____
- ☐ Failure to maintain dust control (Art. IV, Sec. B.2.b.8.e.).
Location(s) _____
- ☐ Failure to follow permitted construction sequencing (Art. IV, Sec. B.2.b.8.j).
Location(s) _____
- _____

You must take immediate action and cure all deficiencies identified above within five (5) working days, or the Village may issue a Stop Work Order or invoke Article VII –Penalties and Legal Actions of the WDO that provides for up to a \$500 fine for each offense each day the violation continues. Once all deficiencies have been cured, please call our office to schedule a re-inspection. If you have any questions please contact the Village Engineering Department at (847)395-0142.

Sincerely,

Engineering Supervisor

cc: Village Administrator

Summary of Violation Notification Procedure

1st Notice: Village will furnish a Violation Notification to applicant and/or representative via fax and Certified Mail outlining necessary corrective measures to be completed and re-inspected within 5-working days of said notification. After which time, if violations are still not corrected, a *Red Tag* will be issued for the site (i.e. all work to stop except for activities related to correcting violations).

2nd Notice: Village issues a *Red-Tag* for the site along with a Conditional Stop Work Order (allowing only remediation activities) via fax and Certified Mail granting an additional 5-working day deadline to complete remedial work to cure said WDO violation(s). Fines continue to accrue.

3rd and Final Notice: If corrective measures have not been completed within the period allowed by 2nd Notice, the Village shall meet with the applicant/developer to discuss the Village's additional punitive actions and the plan and schedule within which the necessary remedial measures will be completed. Fines continue to accrue and the Conditional Stop Work Order remains in effect.

NOTE: Building and/or Occupancy Permits and surety reduction requests will be withheld until all violations are resolved and levied fines are paid.

5.9 Detention/Retention Pond Checklist

Detention/Retention Pond Checklist

Inspected by:			Date:	
			Weather Conditions:	
Number	Name/Location	Flood Height <i>(low/medium/high)</i>	Condition <i>(Good / Fair / Poor)</i>	Comments
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

5.10 Roadway Culvert/Bridge Checklist

Roadway Culvert / Bridge Checklist

Inspected by:				Date:	
				Weather Conditions:	
Number	Location	Size	Flood Height (low/medium/high)	Condition (Good/Fair/Poor)	Comments
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

5.11 Pool Dewatering Fact Sheet

SWIMMING POOLS

Your swimming pool is filled with chlorinated water. Chlorinated water discharged directly to surface waters (wetlands, lakes, streams, and rivers), roadways or storm sewers has an adverse impact on local water quality. High concentrations of chlorine, as are present in swimming pools, are toxic to wildlife and fish. Appropriate preparations should be made prior to draining down a pool during pool winterizing. It is recommended that one of the following measures be used:

- De-chlorinate the water in the pool prior to draining. This can be done through mechanical or chemical means. These types of products are readily available at local stores.
Or,
- Drain the pool over a period of several days across your lawn using the following additional guidelines:
 - 1) Allow pool water to sit at least 2 days while receiving a reasonable amount of sunlight, and without further addition of chlorine or bromine. It is recommended that the chlorine level be tested after 2 days to ensure that safe levels are met (below 0.1 mg/l).
 - 2) Pool discharge should be directed across your lawn, not down your driveway or into nearby storm sewer inlets. Our storm sewer system leads directly to wetlands, streams, lakes or rivers.

These recommendations are based on guidance from the Illinois Environmental Protection Agency. Visit www.epa.state.il.us/water for additional information.

You may also contact the Village Engineering and Public Works Department at 847-395-0142 and 847-395-1881.

Please do your part to help promote cleaner wetlands, streams, lakes and rivers.

Thank you.

5.12 Spill Response Notice

Stormwater Pollution Found in Your Area!

This is not a citation.

This is to inform you that our staff found the following pollutants in the storm sewer system in your area. This storm sewer system leads directly to

- ☐ Motor oil
- ☐ Oil filters
- ☐ Antifreeze/
transmission fluid
- ☐ Paint
- ☐ Solvent/degreaser
- ☐ Cooking grease
- ☐ Detergent
- ☐ Home improvement waste (concrete,
mortar)
- ☐ Pet waste
- ☐ Yard waste (leaves, grass, mulch)
- ☐ Excessive dirt and
gravel
- ☐ Trash
- ☐ Construction debris
- ☐ Pesticides and
fertilizers
- ☐ Other



**For more information or to report
an illegal discharge of
pollutants, please call:**

Village of Antioch
Engineering & Public Works Depts.
847-395-0142 and 847-395-1881



www.epa.gov/npdes/stormwater

EPA 833-F-03-002
April 2003



Stormwater runoff is precipitation from rain or snowmelt that flows over the ground. As it flows, it can pick up debris, chemicals, dirt, and other pollutants and deposit them into a storm sewer system or waterbody.

Anything that enters a storm sewer system is discharged *untreated* into the waterbodies we use for swimming, fishing, and providing drinking water.

Remember:
Only Rain Down the Drain

To keep the stormwater leaving your home or workplace clean, follow these simple guidelines:

- ◆ Use pesticides and fertilizers sparingly.
- ◆ Repair auto leaks.
- ◆ Dispose of household hazardous waste, used auto fluids (antifreeze, oil, etc.), and batteries at designated collection or recycling locations.
- ◆ Clean up after your pet.
- ◆ Use a commercial car wash or wash your car on a lawn or other unpaved surface.
- ◆ Sweep up yard debris rather than hosing down areas. Compost or recycle yard waste when possible.
- ◆ Clean paint brushes in a sink, not outdoors. Properly dispose of excess paints through a household hazardous waste collection program.
- ◆ Sweep up and properly dispose of construction debris like concrete and mortar.



5.13 Indirect Illicit Discharge Tracking and Summary Forms

Illicit Discharge Incident Tracking Form				
Incident ID:				
Responder Information				
Call taken by:			Call date:	
Call time:			Precipitation (inches) in past 24-48 hrs:	
Reporter Information				
Incident time:			Incident date:	
Caller contact information (<i>optional</i>):				
Incident Location (<i>complete one or more below</i>)				
Latitude and longitude:				
Stream address or outfall #:				
Closest street address:				
Nearby landmark:				
Primary Location Description		Secondary Location Description:		
<input type="checkbox"/> Stream corridor (<i>In or adjacent to stream</i>)		<input type="checkbox"/> Outfall	<input type="checkbox"/> In-stream flow	<input type="checkbox"/> Along banks
<input type="checkbox"/> Upland area (<i>Land not adjacent to stream</i>)		<input type="checkbox"/> Near storm drain	<input type="checkbox"/> Near other water source (storm water pond, wetland, etc.):	
Narrative description of location:				
Upland Problem Indicator Description				
<input type="checkbox"/> Dumping		<input type="checkbox"/> Oil/solvents/chemicals	<input type="checkbox"/> Sewage	
<input type="checkbox"/> Wash water, suds, etc.		<input type="checkbox"/> Other: _____		
Stream Corridor Problem Indicator Description				
Odor	<input type="checkbox"/> None	<input type="checkbox"/> Sewage	<input type="checkbox"/> Rancid/Sour	<input type="checkbox"/> Petroleum (gas)
	<input type="checkbox"/> Sulfide (rotten eggs); natural gas	<input type="checkbox"/> Other: Describe in "Narrative" section		
Appearance	<input type="checkbox"/> "Normal"	<input type="checkbox"/> Oil sheen	<input type="checkbox"/> Cloudy	<input type="checkbox"/> Suds
	<input type="checkbox"/> Other: Describe in "Narrative" section			
Floatables	<input type="checkbox"/> None:	<input type="checkbox"/> Sewage (toilet paper, etc)	<input type="checkbox"/> Algae	<input type="checkbox"/> Dead fish
	<input type="checkbox"/> Other: Describe in "Narrative" section			
Narrative description of problem indicators:				
Suspected Violator (name, personal or vehicle description, license plate #, etc.):				

C-9

Investigation Notes	
Initial investigation date:	Investigators:
<input type="checkbox"/> No investigation made	Reason:
<input type="checkbox"/> Referred to different department/agency:	Department/Agency:
<input type="checkbox"/> Investigated: No action necessary	
<input type="checkbox"/> Investigated: Requires action	Description of actions:
Hours between call and investigation:	Hours to close incident:
Date case closed:	
Notes:	

5.14 Sample Maintenance Plans

STORMWATER MANAGEMENT SYSTEM ANNUAL MAINTENANCE PLAN FOR EXISTING FACILITIES

Purpose and Objective:

Detention and water quality treatment facilities, storm sewers, swales and native vegetation/buffer areas define a development's stormwater management system. When land is altered to build homes and other developments, the natural system of trees and plants is replaced with impervious surfaces like sidewalks, streets, decks, roofs, driveways, or lawns over highly compacted soils. As a result more rain water / storm water flows off the land at a faster rate and less rain water is absorbed into the soil. This can lead to streambank erosion, downstream flooding and increased concentrations of pollutants. The existing storm water management system was designed to help slow the rate of runoff from the development and maintain the quality of the storm water leaving the site.

Inspection Frequency:

Inspection experience will determine the required cleaning frequencies for the components of the stormwater management system. At a minimum, the attached checklist items should be inspected annually. Detention ponds (including the outlet control structure and restrictors) should be inspected on a monthly basis during wet weather conditions from March to November.

Maintenance Considerations:

Whenever possible, maintenance activities should be performed during the inspection. These activities should be supplemented by repair / replacement as required. A Registered Professional Engineer (PE) shall be hired for design resolution of specific items as indicated on the checklist below.

Cost Considerations:

Frequent maintenance program work execution will lead to less frequent and less costly long-term maintenance and repair. The attached checklist items may need to be amended based on inspection experience.

Record Keeping:

Separate and distinct records should be maintained by the responsible party for all tasks performed associated with this plan. The records shall include the dates of maintenance visits, who performed the inspection, and a description of the work performed.

STORMWATER MANAGEMENT SYSTEM MAINTENANCE PLAN FOR NEW FACILITIES

Subject: **INSERT DEVELOPMENT NAME HERE**

SUCH PROPERTY BEING THE REAL PROPERTY NOW DULY PLATTED AS **INSERT DEVELOPMENT NAME HERE**, AS SUCH PLAT IS NOW RECORDED AS DOCUMENT NO. **INSERT DOCUMENT NUMBER**, IN THE OFFICE OF THE RECORDER OF DEEDS OF THE COUNTY OF LAKE, STATE OF ILLINOIS, HEREBY MAKES THE FOLLOWING DECLARATIONS OF MAINTENANCE RESPONSIBILITIES.

Responsibilities

Adequate provisions for maintenance of the stormwater system are an essential aspect of long-term drainage performance. Responsibility for the overall maintenance shall rest with the **insert responsible party name here**.

Purpose and Objective:

Detention and water quality treatment facilities, storm sewers, swales and native vegetation/buffer areas define a development's stormwater management system. When land is altered to build homes and other developments, the natural system of trees and plants is replaced with impervious surfaces like sidewalks, streets, decks, roofs, driveways, or lawns over highly compacted soils. As a result more rain water / storm water flows off the land at a faster rate and less rain water is absorbed into the soil. This can lead to streambank erosion, downstream flooding and increased concentrations of pollutants. The storm water management system was designed to help slow the rate of runoff from the development and improve the quality of the storm water leaving the site.

Interpretation as to Requirements Under This Maintenance Plan:

The requirement for this Maintenance Plan is generated by the Lake County Watershed Development Ordinance. Therefore, the interpretation of the maintenance requirements set forth in this Maintenance Plan shall be interpreted on the basis of the intent and requirements of said Ordinance.

Inspection Frequency:

Inspection experience will determine the required cleaning frequencies for the components of the stormwater management system. At a minimum, the attached checklist items should be inspected annually. Detention ponds (including the outlet control structure and restrictors) should be inspected on a monthly basis during wet weather conditions from March to November.

Maintenance Considerations:

Whenever possible, maintenance activities should be performed during the inspection. These activities should be supplemented by repair / replacement as required. A Registered Professional Engineer (PE) shall be hired for design resolution of specific items as indicated on the checklist below.

Cost Considerations:

Frequent maintenance program work execution will lead to less frequent and less costly long-term maintenance and repair. The attached checklist items may need to be amended based on experience recorded over the initial period of occupancy of the subdivision.

Record Keeping:

Separate and distinct records shall be maintained by the responsible party for all tasks performed associated with this plan. The records shall include the dates of maintenance visits, who performed the inspection, and a description of the work performed.

_____, the owner's agent, has caused these presents to be signed and acknowledged, this
_____ day of _____, 2_____.

By: _____

Post-Construction Stormwater Management System Inspection Checklist

The following checklist describes the suggested routine inspection items and recommended measures to be taken to ensure that the Stormwater Management System functions as designed. When hiring a PE is the recommended measure, the PE shall inspect, evaluate and recommend corrective actions. The General section outlines items that should be taken into consideration during inspection and maintenance activities. While performing an overall inspection of your system, please check for the following items.

General -

- Litter and debris shall be controlled.
- Accumulated sediment shall be disposed of properly, along with any wastes generated during maintenance operations.
- Riprap areas shall be repaired with the addition of new riprap, as necessary, of adequate size and shape.
- Roads and parking lots shall be swept or vacuumed on a periodic basis.
- Access path to storm water management facilities should be free from obstructions (woodpiles, sheds, vegetation).
- Fences, gates and posts shall be maintained.
- Signs shall be maintained.

Storage Facilities (Detention, Retention and Water Quality Treatment Facilities)

Dams and Berms -

- ___ Settlement. If settlement observed, hire a PE.
- ___ Breaks or failures. If failure observed, notify the Village immediately and hire a PE.
- ___ Erosion. Repair as needed.
- ___ Signs of leakage, seepage or wet spots. If observed, hire a PE.
- ___ Unwanted growth or vegetation. Remove as needed.

Shorelines -

- ___ Erosion or rip-rap failures. Repair as needed
- ___ Undermining. Stabilize and repair as needed.

Outlet and Inlet Structure -

- ___ Obstructions blocking outlet pipe, restrictor, channel or spillway. Remove obstructions immediately.
- ___ Separation of joints. Repair as needed.
- ___ Cracks, breaks, or deterioration of concrete. Repair as needed
- ___ Scour and erosion at outlet. If observed, repair (consider additional or alternative stabilization methods).
- ___ Condition of trash racks. Remove any collected debris.
- ___ Outlet channel conditions downstream. Stabilize soil or remove obstructions as needed.

Storage Volume -

- _____ Facilities shall be inspected to ensure that the constructed volume for detention is maintained. No sediment, topsoil, or other dumping into the facility shall be allowed. If a detention facility includes specific locations designed to accumulate sediment these locations should be dredged every 5-yr or when 50% of the volume has been lost.
- _____ Wet ponds lose 0.5 - 1.0% of their volume annually. Dredging is required when accumulated volume loss reaches 15%, or approximately every 15-20 years.

Storm Sewers -

- _____ System is free draining into collection channels or catch basins. If concerned, clean or repair.
- _____ Catch basins. Remove sediment when more than 50% of basin sump is filled.
- _____ **SILTATION IN CULVERT. CULVERTS SHALL BE CHECKED FOR SILTATION DEPOSIT, CLEAN OUT AS NECESSARY.**

Bridges

- _____ Any scouring around wing walls. Stabilize and repair as needed. If concerned, hire a PE.
- _____ Any undermining of footings. Stabilize and repair as needed. If concerned, hire a PE.

Swales –

- _____ All ditches or pipes connecting ponds in series should be checked for debris that may block flow.
- _____ Repair and replace permanent check-dams as necessary.
- _____ Verify systems (both drainage ditches and sideyard swales) are maintaining originally constructed design slope and cross-sectional area. If fill or sediment contributes to elevation changes in swale, re-grading and re-shaping shall be performed. Licensed surveyors shall be hired to lay-out and check grades. No landscaping, earthen fill, gardens, or other obstructions (including sheds and other structures) shall be allowed in the swales that would impede design drainage flow patterns.

Vegetated Areas –

- _____ Need for planting, reseeding or sodding of native areas. Supplement alternative native vegetation if a significant portion has not established (50% of the surface area). Reseed with alternative grass species if original grass cover has not successfully established.
- _____ Need for planting, reseeding or sodding of turf areas. Supplement alternative native vegetation if a significant portion has not established (75% of the surface area). Reseed with alternative grass species if original grass cover has not successfully established.
- _____ Invasive vegetation (refer to the Native Plant Guide for Streams and Stormwater Facilities in Northeastern Illinois, or hire an environmental or landscape specialist, or hire an environmental or landscape specialist). Remove as necessary.

Wetland Buffers –

- _____ Inspect for evidence of erosion or concentrated flows through or around the buffer. All eroded areas should be repaired, seeded and mulched. A shallow stone trench should be installed as a level spreader to distribute flows evenly in any area showing concentrated flows.
- _____ All existing undergrowth, forest floor duff layer, and leaf litter must remain undisturbed except in designated paths or permitted encroachment areas.

- _____ No tree cutting is allowed except for normal maintenance of dead, diseased and damaged trees or; the culling of invasive, noxious or non-native species that are to be replaced by more desirable and native vegetation.
- _____ A buffer must maintain a dense, complete and vigorous cover of "non-lawn" vegetation which should not be mowed no more than once a year. Vegetation may include grass and other herbaceous species as well as shrubs and trees.
- _____ Use or maintenance activities within the buffer shall be conducted so as to prevent damage to vegetation and exposure of soil.

5.15 Yearly Tracking Forms

Annual SMPP Tasks

BMP	Task	Resp. Party	Date Compl'd	SMPP Section
A.1	Distribute materials at municipal Labor Day events	ED		3.1.A, C
A.4	Support SWALCO collections, maintain log of event dates and quantities collected	PWD		3.1.G
A.5	Attempt to coordinate SWALCO presentations at local school(s).	ES		3.1.B
A.6	Post NOI, SMPP and Annual Report on website	ES		3.1.C
A.6	Add stickers/markers to approximately 20% of all inlets per year, until all existing inlets are marked	ED/PWD		3.1.F
A.6	"Distribute" Vehicle Fluid Maintenance materials	ED/PWD		3.1.I
A.6	"Distribute" Septic System Maintenance information	ED/PWD		3.1.H
A.6	"Distribute" Car Washing information	ED/OWD		3.1.J
A.6, C.9, E.7	Provide swimming pool door hanger and fact sheet (preferably in Sept).	PW		3.1.K
B.4	Present Annual Report at public meeting	VA		3.2.A
C.1	Update outfall map (new permits, outfall inventory updates)	ED		3.3.B.1
C.1, C.7	Inspect for "new" outfalls. Pre-screen 100% of outfalls in 2013 (all outfalls to be rescreened every 5-years)	ED		3.3.B.1, 3.3.D.2.a
C.3, C.8	Complete outfall inspection procedure for 20% of all outfalls with observed dry weather flow ('09-'13)	ED		3.3.D.2.c
C.6	Review the results of the screening program to examine whether any trends can be identified that relate the incidence of dry-weather flow observations to the age or land use of a developed area.	ES		3.3.D.5
C.7	Inspect catch basins, clean approximately 20% of all catch basins annually	PW		3.6.A.2.d-f
C.7	Track cleaned catch basins on GIS system	ED		3.6.A.2.d
E.6	Inspect 20% of developed properties with SWM facilities for compliance with maintenance plans	ED		3.5.E.1

BMP	Task	Resp. Party	Date Compl'd	SMPP Section
E.6	Inspect 20% of receiving water streambanks for erosion and flowlines for sediment accumulation	ED		3.5.E.3
E.6	Inspect 20% of detention basins shorelines for erosion and document permanent pool depths, if applicable	ED		3.5.E.2, 4
F.2	Inspect and recondition spreaders and spinners. Install these items onto snow removal vehicles, performing test operations, calibrating distribution rates per National Salt Institution Application Guidelines, and conducting better driver training.	PW		3.5.A.4.a
B.6	Evaluate SWPP. Major highlights and deficiencies should be noted annually and the plan revised accordingly on a minimum 5-yr basis, or as necessary.	ED		3.2, 4

PWD = Public Works Director
 ES = Engineering Supervisor
 PW = Public Works
 VA = Village Administrator
 ED = Engineering Department

As needed SMPP Tasks

BMP	Task	Resp. Party	Date Compl'd	SMPP Section
A.1, A.4	Attend/sponsor outreach events and scheduled meetings with the general public and distribute materials	PWD & ES		3.1.A, 3.1.D
A.6, B5	Provide guide to Storm Drain Marking to groups that express interest	ES		3.1.F
B.3	Participate in QLP or other sponsored watershed planning events (stakeholder groups)	PWD & ES		3.2.C
C.4	Complete source id/tracing procedures for identified illicit discharges	PWD & ES		3.3.D.3.c

BMP	Task	Resp. Party	Date Compl'd	SMPP Section
C.5, C.8	Complete removal procedures for found illicit discharges	PWD & ES		3.3.D.4
C.9	Implement Spill Response Plan and provide notice for observed discharges	PWD		3.3.C, 3.6.B
E.3	Provide sample maintenance plan to pre-wdo sites	ES		3.5.D
F.1	Offer Village staff training	PWD & ES		3.6.C
F.1	Encourage employees to attend all relevant training sessions offered by the QLP and other entities on topics related to the goals/objectives of the SWPPP	PWD & ES		3.6.C
F.3	Plowing activities direct snow off the pavement and onto the parkways	PWD		3.5.A.4.c
F.4	Spoil stock pile storage and disposal	PWD		3.6.A.8.a

PWD = Public Works Director
 ES = Engineering Supervisor
 PW = Public Works
 VA = Village Administrator
 ED = Engineering Department

On-going SMPP Tasks

BMP	Task	Frequency *	Resp. Party	Date Compl'd	SMPP Section
A.1	Maintain take-a-way racks (outreach material notebook) at Village Hall	monthly	ED		3.1.A, E
A.1, A.6	Include SWPPP related article in Village newsletter	yearly	ED		
A.6	Require all new development to furnish stamped inlet grates as of September 2009		ED		3.1.F
A.6, B.3	Maintain list of available publications, link to SMC, link to SWALCO and SW outreach activities on web-site		ED		3.1.C, E
B.2	Support adopt-a-highway efforts		PW & ED		3.2.F

BMP	Task	Frequency *	Resp. Party	Date Compl'd	SMPP Section
B.3, C.6	Participates in MAC meetings and events hosted by the QLP	monthly	ES		3.2.E
B.6	Oversee Public Participation portion of the program and update tracking lists		PWD & ES		3.2
B.7	Include Engineering and PWD phone number on all village outreach publications		PWD & ES		3.2.D
B.7	Maintain Indirect Illicit Discharge Tracking forms and respond (hotline calls)		PWD & ES		3.2.D
B.7, D.5	Screen, log and route complaints/suggestions/requests to appropriate department for action		PWD & ES		3.2.B
C.2	Enforce IDDE Ordinance		PWD		3.2.A.2
C.3	Compile data from the Storm Water Outfall Inspection Data Form (Appendix 5.3) onto the Outfall Inspection Screening Summary Form (Appendix 5.5)	monthly	ED		3.3.D.2.d
D.1- D.6, E.2- E.5	Administer & enforce (or assist SMC in) WDO provisions (plan review, permitting and inspections)		ED		3.4
D.5	Keep log, track number, of se/sc complaints		ED		3.4.F
D.6	Obtain performance guarantees		ED		3.4.G
D.6	Enforce Village's Violation Notification Procedure		PW & ED		3.4.H
D.6, E.5	Attend pre-construction meetings, make site inspections and final walk-through. Complete meeting checklists		ED		3.4.E
E	Ensure development plans address RVRH and incorporate green infrastructure if practicable		ED		3.5.B, C
E.3	Obtain stormwater management system maintenance plans for new developments		ED		3.5.D
E.3	Pond Outlets and Roadway Culverts inspections	annually	PW		3.6.A.2.a, b
E.7	Maintain pet waste stations, inspect & clean/restock stations.	weekly			3.6.A.5
E.7	Collect yard waste	April-Nov	Contracted		3.6.A.3.b

BMP	Task	Frequency *	Resp. Party	Date Compl'd	SMPP Section
E.7	Inspect swales and overland flow paths for erosion and sediment accumulation, report		PW		3.6.A.2.g
E.7, F.2	Street sweeping	April-Nov	PW		3.6.A.1
F.2	Remove litter/debris from Village property, roadway right-of-ways, facilities, park & rec areas		PW		3.6.A.3.a
F.2	Weed killer and fertilizers (2x and 4x per year respectively)				3.6.A.3.c
F.2	Collection and disposal of "road kill" and carcasses		PW		3.6.A.7
F.3	Prime Calcium Chloride dispensing system	monthly			3.6.A.4.a
F.4	Perform leak tests on underground vehicle fueling tanks	monthly			3.6.A.6
F.4	Vehicle Maintenance collection and disposal (waste oil, antifreeze, batteries, tires)		PW		3.6.A.6
F.4	Triple basin material removal/disposal and cleaning of	annually	PW		3.6.A.8
E.7	Maintain green infrastructure				3.6.A.10

* all tasks are on-going unless otherwise noted

PWD = Public Works Director
ES = Engineering Supervisor
PW = Public Works
VA = Village Administrator
ED = Engineering Department

5.16 General Permit ILR40

General NPDES Permit No. ILR40

Illinois Environmental Protection Agency
Division of Water Pollution Control
1021 North Grand East
P.O. Box 19276
Springfield, Illinois 62794-9276

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

General NPDES Permit For Discharges from Small Municipal Separate Storm Sewer Systems

Expiration Date: March 31, 2014

Issue Date: February 20, 2009

Effective Date: April 1, 2009

In compliance with the provisions of the Illinois Environmental Protection Act, the Illinois Pollution Control Board Rules and Regulations (35 Ill. Adm. Code, Subtitle C, Chapter 1) and the Clean Water Act, the following discharges may be authorized by this permit in accordance with the conditions herein:

Discharges of only storm water from small municipal separate storm sewer systems, as defined and limited herein. Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage.

Receiving waters: Discharges may be authorized to any surface water of the State.

To receive authorization to discharge under this general permit, a facility operator must submit an application as described in the permit conditions to the Illinois Environmental Protection Agency. Authorization, if granted, will be by letter and include a copy of this permit.



Alan Keller, P.E.
Manager, Permit Section
Division of Water Pollution Control

ILR40.wpd

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PART I. COVERAGE UNDER THIS PERMIT

A. Permit Area

This permit covers all areas of the State of Illinois.

B. Eligibility

1. This permit authorizes discharges of storm water from small municipal separate storm sewer systems (MS4s) as defined in 40 CFR 122.26(b)(16) as designated for permit authorization pursuant to 40 CFR 122.32.
2. This permit authorizes the following non-storm water discharges provided they have been determined not to be substantial contributors of pollutants to a particular small MS4 applying for coverage under this permit:
 - water line and fire hydrant flushing,
 - landscape irrigation water,
 - rising ground waters,
 - ground water infiltration,
 - pumped ground water,
 - discharges from potable water sources, (excluding wastewater discharges from water supply treatment plants)
 - foundation drains,
 - air conditioning condensate,
 - irrigation water, (except for wastewater irrigation),
 - springs,
 - water from crawl space pumps,
 - footing drains,
 - storm sewer cleaning water,
 - water from individual residential car washing,
 - routine external building washdown which does not use detergents,
 - flows from riparian habitats and wetlands,
 - dechlorinated pH neutral swimming pool discharges,
 - residual street wash water,
 - discharges or flows from fire fighting activities
 - dechlorinated water reservoir discharges, and
 - pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed).
3. Any municipality covered by this general permit is also granted automatic coverage under Permit No. ILR10 for the discharge of storm water associated with construction site activities for municipal construction projects disturbing one acre or more. The permittee is granted automatic coverage 30 days after Agency receipt of a Notice of Intent to Discharge Storm Water from Construction Site Activities from the permittee. The Agency will provide public notification of the construction site activity and assign a unique permit number for each project during this period. The permittee shall comply with all the requirements of Permit ILR10 for all such construction projects.

C. Limitations on Coverage

The following discharges are not authorized by this permit:

1. Storm water discharges that are mixed with non-storm water or storm water associated with industrial activity unless such discharges are:
 - a. in compliance with a separate NPDES permit, or
 - b. identified by and in compliance with Part I.B.2 of this permit.
2. Storm water discharges that the Agency determines are not appropriately covered by this general permit. This determination may include discharges identified in Part 1.B.2.
3. Storm water discharges to any receiving water specified under 35 Ill. Adm. Code 302.105(d)(6).

D. Obtaining Authorization

In order for storm water discharges from small municipal separate storm sewer systems to be authorized to discharge under this general permit, a discharger must:

1. Submit a Notice of Intent (NOI) in accordance with the requirements of Part II using an NOI form provided by the Agency (or a photocopy thereof) or the appropriate U.S. EPA NOI form.
2. Submit a new NOI in accordance with Part II within 30 days of a change in the operator or the addition of a new operator.
3. Unless notified by the Agency to the contrary, submit an NOI in accordance with the requirements of this permit to be authorized to discharge storm water from small municipal separate storm sewer systems under the terms and conditions of this permit 30 days after the date that the NOI is received. The Agency may deny coverage under this permit and require submittal of an application for an individual NPDES permit based on a review of the NOI or other information.

PART II. NOTICE OF INTENT REQUIREMENTS

A. Deadlines for Notification

1. If you were automatically designated under 40 CFR 122.32(a)(1) to obtain permit coverage, then you were required to submit an NOI or apply for an individual permit by March 10, 2003.
2. If you have coverage under the previous general permit for storm water discharges from small MS4s, you must renew your permit coverage under this part. You must submit a NOI within 90 days of the effective date of this reissued general permit for storm water discharges from small MS4s to renew your NPDES permit coverage.
3. If you are designated by IEPA under Section 122.32 (a)(2) during the term of this general permit, then you are required to submit an NOI within 180 days of such notice.
4. You are not prohibited from submitting an NOI after established deadlines for NOI submittals. If a late NOI is submitted, your authorization is only for discharges that occur after permit coverage is granted. IEPA reserves the right to take appropriate enforcement actions against MS4s that have not submitted a timely NOI.

B. Contents of Notice of Intent

Dischargers seeking coverage under this permit shall submit either the Illinois MS4 NOI form or the U.S. EPA MS4 NOI form. The Notice(s) of Intent shall be signed in accordance with Standard Condition 11 of this permit and shall include the following information:

1. The street address, county, and the latitude and longitude of the municipal office for which the notification is submitted;
2. The name, address, and telephone number of the operator(s) filing the NOI for permit coverage;
3. The name of the receiving water(s), their impairments from any approved 303(d) list and any appropriate TMDL or alternate water quality study; and
4. The following shall be provided as an attachment to the NOI:
 - a. a description of the best management practices (BMPs) to be implemented and the measurable goals for each of the storm water minimum control measures in paragraph IV. B. of this permit designed to reduce the discharge of pollutants to the maximum extent practicable;

- b. the month and year in which you implemented any BMPs of the six minimum control measures, and the month and year in which you will start and fully implement any new minimum control measures or indicate the frequency of the action;
 - c. for existing permittees, provide adequate information or justification on any BMPs from previous NOIs that could not be implemented; and
 - d. identification of a local qualifying program, or any partners of the program if any.
- 5. For existing permittees, certification that states the permittee has implemented necessary BMPs of the six minimum control measures.
- C. All required information for the NOI shall be submitted electronically to the following email and office addresses:
epa.ms4noipermits@illinois.gov

 Illinois Environmental Protection Agency
 Division of Water Pollution Control
 Permit Section
 Post Office Box 19276
 Springfield, Illinois 62794-9276
- D. Shared Responsibilities

 You may partner with other MS4s to develop and implement your storm water management program. You may also jointly submit an NOI with one or more MS4s. Each MS4 must fill out the NOI form. The description of your storm water management program must clearly describe which permittees are responsible for implementing each of the control measures. Each permittee is responsible for implementation of Best Management Practices for the Storm Water Management Program within its jurisdiction.

PART III. SPECIAL CONDITIONS

- A. Your discharges, alone or in combination with other sources, shall not cause or contribute to a violation of any applicable water quality standard outlined in 35 Ill. Adm. Code 302.
- B. If there is evidence indicating that the storm water discharges authorized by this permit cause, or have the reasonable potential to cause or contribute to a violation of water quality standards, you may be required to obtain an individual permit or an alternative general permit or the permit may be modified to include different limitations and/or requirements.
- C. If a total maximum daily load (TMDL) allocation or watershed management plan is approved for any water body into which you discharge, you must review your storm water management program to determine whether the TMDL or watershed management plan includes requirements for control of storm water discharges. If you are not meeting the TMDL allocations, you must modify your storm water management program to implement the TMDL or watershed management plan within eighteen months of notification by the Agency of the TMDL or watershed management plan approval. Where a TMDL or watershed management plan is approved, you must:
 - 1. Determine whether the approved TMDL is for a pollutant likely to be found in storm water discharges from your MS4.
 - 2. Determine whether the TMDL includes a pollutant waste load allocation (WLA) or other performance requirements specifically for storm water discharge from your MS4.
 - 3. Determine whether the TMDL addresses a flow regime likely to occur during periods of storm water discharge.
 - 4. After the determinations above have been made and if it is found that your MS4 must implement specific WLA provisions of the TMDL, assess whether the WLAs are being met through implementation of existing storm water control measures or if additional control measures are necessary.
 - 5. Document all control measures currently being implemented or planned to be implemented to comply with TMDL waste load allocation(s). Also include a schedule of implementation for all planned controls. Document the calculations or other evidence that shows that the WLA will be met.
 - 6. Describe and implement a monitoring program to determine whether the storm water controls are adequate to meet the WLA.
 - 7. If the evaluation shows that additional or modified controls are necessary, describe the type and schedule for the control additions/revisions.

8. Continue Paragraphs 4 above through 7 until two continuous monitoring cycles show that the WLAs are being met or that WQ standards are being met.
- D. If this permit is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with the Administrative Procedures Act and remain in force and effect. Any permittee who was granted permit coverage prior to the expiration date will automatically remain covered by the continued permit until the earlier of:
1. Reissuance or replacement of this permit, at which time you must comply with the Notice of Intent conditions of the new permit to maintain authorization to discharge; or
 2. Your submittal of a Notice of Termination; or
 3. Issuance of an individual permit for your discharges; or
 4. A formal permit decision by the Agency not to reissue this general permit at which time you must seek coverage under an alternative general permit or an individual permit.
 5. The permittee shall submit a revised or updated NOI to the Agency no later than 180 days prior to the expiration date of this permit in order for permit coverage to be administratively continued.
- E. The Agency may require any person authorized to discharge by this permit to apply for and obtain either an individual NPDES permit or an alternative NPDES general permit. Any interested person may petition the Agency to take action under this paragraph. The Agency may require any owner or operator authorized to discharge under this permit to apply for an individual NPDES permit only if the owner or operator has been notified in writing that a permit application is required. This notice shall include a brief statement of the reasons for this decision, an application form, a statement setting a deadline for the owner or operator to file the application, and a statement that on the effective date of the individual NPDES permit or the alternative general permit as it applies to the individual permittee, coverage under this general permit shall automatically terminate. The Agency may grant additional time to submit the application upon request of the applicant. If an owner or operator fails to submit in a timely manner an individual NPDES permit application required by the Agency under this paragraph, then the applicability of this permit to the individual NPDES permittee is automatically terminated at the end of the day specified for application submittal.
- F. Any owner or operator authorized by this permit may request to be excluded from the coverage of this permit by applying for an individual permit. The owner or operator shall submit an individual application with reasons supporting the request, in accordance with the requirements of 40 CFR 122.28, to the Agency. The request will be granted by issuing an individual permit or an alternative general permit if the reasons cited by the owner or operator are adequate to support the request.
- G. When an individual NPDES permit is issued to an owner or operator otherwise subject to this permit, or the owner or operator is approved for coverage under an alternative NPDES general permit, the applicability of this permit to the individual NPDES permittee is automatically terminated on the issue date of the individual permit or the date of approval for coverage under the alternative general permit, whichever the case may be.
- H. When an individual NPDES permit is denied to an owner or operator otherwise subject to this permit, or the owner or operator is denied coverage under an alternative NPDES general permit the applicability of this permit to the individual NPDES permittee is automatically terminated on the date of such denial, unless otherwise specified by the Agency.

PART IV. STORM WATER MANAGEMENT PROGRAMS

A. Requirements

The permittee must develop, implement, and enforce a storm water management program designed to reduce the discharge of pollutants from your small municipal separate storm sewer system to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Illinois Pollution Control Board Rules and Regulations (35 Ill. Adm. Code, Subtitle C, Chapter 1) and the Clean Water Act. Your storm water management program must include the minimum control measures described in section B of this Part. For new permittees, the permittee must develop and implement a program by the date specified in your coverage letter. The U.S. Environmental Protection Agency's National Menu of Storm Water Best Management Practices (<http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm>) and the most recent version of the Illinois Urban Manual should be consulted regarding the selection of appropriate BMPs.

B. Minimum Control Measures

The 6 minimum control measures to be included in your storm water management program are:

1. Public education and outreach on storm water impacts

The permittee must:

- a. implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff; the permittee should incorporate into its education materials information about green infrastructure strategies such as green roofs, rain gardens, rain barrels, bioswales, permeable piping, dry wells and permeable pavement, that mimic natural processes and direct storm water to areas where it can be infiltrated, evapotranspired or reused, discuss the benefits and costs of such strategies and provide guidance to the public on how to implement them; and
 - b. define appropriate BMPs for this minimum control measure and measurable goals for each BMP. These measurable goals must ensure the reduction of all of the pollutants of concern in your storm water discharges to the maximum extent practicable.
2. Public Involvement/Participation
- The permittee must:
- a. at a minimum, comply with State and local public notice requirements when implementing a public involvement/participation program; and
 - b. define appropriate BMPs for this minimum control measure and measurable goals for each BMP, which must ensure the reduction of all of the pollutants of concern in your storm water discharges to the maximum extent practicable.
3. Illicit discharge detection and elimination
- The permittee must:
- a. develop, implement and enforce a program to detect and eliminate illicit discharges into your small MS4;
 - b. develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all waters that receive discharges from those outfalls;
 - c. to the extent allowable under state or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into your storm sewer system and implement appropriate enforcement procedures and actions, including enforceable requirements for the prompt reporting to the MS4 of all releases, spills and other unpermitted discharges to the separate storm sewer system, and a program to respond to such reports in a timely manner.
 - d. develop, implement, and adequately fund a plan to detect and address non-storm water discharges, including illegal dumping, to your system;
 - e. inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste and the requirement and mechanism for reporting such discharges;
 - f. address the categories of non-storm water discharges listed in Section I.B.2 only if you identify them as significant contributor of pollutants to your small MS4 (discharges or flows from the fire fighting activities are excluded from the effective prohibition against non-storm water and need only be addressed where they are identified as significant sources of pollutants to waters of the United States); and
 - g. define appropriate BMPs for this minimum control measure and measurable goals for each BMP. These measurable goals must ensure the reduction of all of the pollutants of concern in your storm water discharges to the maximum extent practicable.
 - h. conduct periodic (annual is recommended) inspections of the storm sewer outfalls for detection of non-storm water discharges and illegal dumping.
4. Construction site storm water runoff control
- The permittee must:
- a. develop, implement, and enforce a program to reduce pollutants in any storm water runoff to your small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Control of storm water discharges from construction activity disturbing less than one acre must be included in your program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more or has been designated by the permitting authority.

Your program must include the development and implementation of, at a minimum:

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- i. an ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under state or local law;
 - ii. requirements for construction site operators to implement appropriate erosion and sediment control best management practices, including green infrastructure storm water management techniques where appropriate and practicable;
 - iii. requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;
 - iv. require all regulated construction sites to have a storm water pollution prevention plan that meets the requirements of Part IV of NPDES permit No. ILR10 including management practices, controls, and other provisions at least as protective as the requirements contained in the Illinois Urban Manual, 2002, or as amended including green infrastructure techniques where appropriate and practicable;
 - v. procedures for site plan review which incorporate consideration of potential water quality impacts and review of individual pre-construction site plans to ensure consistency with local sediment and erosion control requirements;
 - vi. procedures for receipt and consideration of information submitted by the public; and
 - vii. procedures for site inspections and enforcement of control measures.
 - b. define appropriate BMPs for this minimum control measure and measurable goals for each BMP. These measurable goals must ensure the reduction of all of the pollutants of concern in your storm water discharges to the maximum extent practicable.
5. Post-construction storm water management in new development and redevelopment
- The permittee must:
- a. develop, implement, and enforce a program to address and minimize storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale or that have been designated to protect water quality, that discharge into your small MS4 within the MS4 jurisdictional control. Your program must ensure that appropriate controls are in place that would protect water quality and reduce the discharge of pollutants to the maximum extent practicable. In addition, each permittee should adopt strategies that incorporate storm water infiltration, reuse and evapotranspiration of storm water into the project to the maximum extent practicable;
 - b. develop and implement strategies which include a combination of structural and/or non-structural BMPs appropriate for all projects within your community for all new development and redevelopment that will reduce the discharge of pollutants, the volume and velocity of storm water flow to the maximum extent practicable. When selecting BMPs to comply with requirements contained in this Part, the permittee should adopt one or more of the following general strategies, in order of preference. Proposal of a strategy should include a rationale for not selecting an approach from among those with a higher preference. When approving a plan for development, redevelopment, highway construction, maintenance, replacement or repair on existing developed sites or other land disturbing activity covered under this Part, the permittee should require the person responsible for that activity to adopt one or more of these strategies, in order of preference, or provide a rationale for selecting a more preferred strategy.
 - i. preservation of the natural features of development sites, including natural storage and infiltration characteristics;
 - ii. preservation of existing natural streams, channels, and drainage ways,
 - iii. minimization of new impervious surfaces;
 - iv. conveyance of storm water in open vegetated channels;
 - v. construction of structures that provide both quantity and quality control, with structures serving multiple sites being preferable to those serving individual sites; and
 - vi. construction of structures that provide only quantity control, with structures serving multiple sites being preferable to those serving individual sites.

- c. develop and implement a program to minimize the volume of storm water runoff and pollutants from public highways, streets, roads, parking lots and sidewalks (public surfaces) through the use of BMPs that alone or in combination result in physical, chemical or biological pollutant load reduction, increased infiltration, evapotranspiration and reuse of storm water. The program shall include, but not be limited to the following elements:
 - i. appropriate training for all MS4 employees who manage or are directly involved in (or who retain others who manage or are directly involved in) the routine maintenance, repair or replacement of public surfaces in current green infrastructure or low impact design techniques applicable to such projects.
 - ii. appropriate training for all contractors retained to manage or carry out routine maintenance, repair or replacement of public surfaces in current green infrastructure or low impact design techniques applicable to such projects. Contractors may provide training to their employees for projects which include green infrastructure or low impact design techniques.
 - d. develop and implement a program to minimize the volume of storm water runoff and pollutants from existing privately owned developed property that contributes storm water to the MS4 within the MS4 jurisdictional control. Such program may contain the following elements:
 - i. source identification – establishment of an inventory of storm water and pollutants discharged to the MS4
 - ii. implementation of appropriate BMPs to accomplish the following:
 - A. education on green infrastructure BMPs
 - B. identify a relevant set of BMPs for all departments
 - C. evaluation of existing flood control techniques to determine the feasibility of pollution control retrofits
 - D. implementation of additional controls for special events expected to generate significant pollution (fairs, parades, performances)
 - E. implementation of appropriate maintenance programs, including maintenance agreements, for structural pollution control devices or systems
 - F. management of pesticides and fertilizers
 - G. street cleaning in targeted areas
 - e. use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects, public surfaces and existing developed property as set forth above to the extent allowable under state or local law; and
 - f. require all regulated construction sites to have post-construction management plans that meets or exceeds the requirements of Section IV (D)(2)(b) of NPDES permit No. ILR10 including management practices, controls, and other provisions at least as protective as the requirements contained in the Illinois Urban Manual, 2002;
 - g. ensure adequate long-term operation and maintenance of BMPs; and
 - h. define appropriate BMPs for this minimum control measure and measurable goals for each BMP. These measurable goals must ensure the reduction of all of the pollutants of concern in your storm water discharges to the maximum extent practicable.
6. Pollution prevention/good housekeeping for municipal operations
- The permittee must:
- a. develop and implement an operation and maintenance program that includes a training component and is designed to prevent and reduce the discharge of pollutants to the maximum extent practicable;
 - b. using training materials that are available from EPA, the state of Illinois, or other organizations, your program must include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, operation of storage yards, snow disposal, new construction and land disturbances, and storm water system maintenance procedures for proper disposal of street cleaning debris and catch basin material, address ways that flood management projects impact water quality, non-point source pollution control, green infrastructure controls, and aquatic habitat; and
 - c. define appropriate BMPs for this minimum control measure and measurable goals for each BMP. These measurable

goals must ensure the reduction of all of the pollutants of concern in your storm water discharges to the maximum extent practicable.

C. Qualifying State, County, or Local Program

If an existing qualifying local program requires you to implement one or more of the minimum control measures of B. above, you may follow that qualifying program's requirements rather than the requirements of B. above. A qualifying local program is a local, county or state municipal storm water management program that imposes, at a minimum, the relevant requirements of Section B. Any qualifying local programs that you intend to follow shall be specified in your storm water management plan.

D. Sharing Responsibility

1. Implementation of one or more of the minimum measures may be shared with another entity, or the entity may fully take over the measure. You may rely on another entity only if:
 - a. the other entity, in fact, implements the control measure;
 - b. the particular control measure, or component of that measure is at least as stringent as the corresponding permit requirement;
 - c. the other entity agrees to implement the control measure on your behalf. Written acceptance of this obligation is expected. This obligation must be maintained as part of the description of your storm water management program. If the other entity agrees to report on the minimum measure, you must supply the other entity with the reporting requirements contained in Section V (C) of this permit. If the other entity fails to implement the control measure on your behalf, then you remain liable for any discharges due to that failure to implement.

E. Reviewing and Updating Storm Water Management Programs

1. Storm Water Management Program Review: You must do an annual review of your Storm Water Management Program in conjunction with preparation of the annual report required under Part V.(C).
2. Storm Water Management Program Update: You may change your Storm Water Management Program during the life of the permit in accordance with the following procedures:
 - a. changes adding (but not subtracting or replacing) components, controls, or requirements to the Storm Water Management Program may be made at any time upon written notification to the Agency; and
 - b. changes replacing an ineffective or unfeasible BMP specifically identified in the Storm Water Management Program with an alternate BMP may be requested at any time. Unless denied by the Agency, changes proposed in accordance with the criteria below shall be deemed approved and may be implemented 60 days from submittal of the request. If request is denied, the Agency will send you a written response giving a reason for the decision. Your modification requests must include the following:
 - i. an analysis of why the BMP is ineffective or infeasible (including cost prohibitive);
 - ii. expectations on the effectiveness of the replacement BMP; and
 - iii. an analysis of why the replacement BMP is expected to achieve the goals of the BMP to be replaced.
 - c. changes replacing or modifying any ordinances relative to the storm water management program;
 - d. change requests or notifications must be made in writing and signed in accordance with Standard Condition II of Attachment H.
3. Storm Water Management Program Updates Required by the Agency. The Agency may require changes to the Storm Water Management Program as needed to:
 - a. address impacts on receiving water quality caused, or contributed to, by discharges from the municipal separate storm sewer system;
 - b. include more stringent requirements necessary to comply with new federal statutory or regulatory requirements; or
 - c. include such other conditions deemed necessary by the Agency to comply with the goals and requirements of the Clean Water Act.

- d. changes requested by the Agency must be made in writing, set forth the time schedule for you to develop the changes, and offer you the opportunity to propose alternative program changes to meet the objective of the requested modification. All changes required by the Permitting Authority will be made in accordance with 40 CFR 124.5, 40 CFR 122.62, or as appropriate 40 CFR 122.63.

PART V. MONITORING, RECORDKEEPING AND REPORTING

A. Monitoring

The permittee must evaluate program compliance, the appropriateness of your identified best management practices, and progress towards achieving your identified measurable goals, which must include reducing the discharge of pollutants to the maximum extent practicable (MEP). Monitoring shall include at least annual monitoring of receiving waters upstream and downstream of the MS4 discharges, use of indicators to gauge the effects of storm water discharges on the physical/habitat-related aspects of the receiving waters, and/or monitoring of the effectiveness of BMPs.

B. Recordkeeping

The permittee must keep records required by this permit for the duration of this permit. All records shall be kept onsite or locally available and shall be made accessible to the Agency for review at the time of an on-site inspection. Except as otherwise provided in this permit, you must submit your records to the Agency only when specifically asked to do so. You must post your notice of intent (NOI), your storm water management plan and your annual reports on your website. You must make your records, including your notice of intent (NOI) and your storm water management plan, available to the public at reasonable times during regular business hours within 10 working days of its approval by the permitting authority. (You may assess a reasonable charge for copying. You may require a member of the public to provide advance notice, not to exceed seven working days.) Storm sewer maps may be withheld for security reasons.

C. Reporting

The permittee must submit annual reports to the Agency by the first day of June for each year that this permit is in effect. If the permittee maintains a website, a copy of the annual report shall be posted on the website by the first day of June of each year. Each report shall cover the period from March of the previous year through March of the current year. Your report must include:

1. The status of compliance with permit conditions, an assessment of the appropriateness of your identified best management practices and progress towards achieving the statutory goal of reducing the discharge of pollutants to the MEP, and your identified measurable goals for each of the minimum control measures;
2. Results of information collected and analyzed, including monitoring data, if any, during the reporting period;
3. A summary of the storm water activities you plan to undertake during the next reporting cycle (including an implementation schedule);
4. A change in any identified best management practices or measurable goals that apply to the program elements; and
5. Notice that you are relying on another government entity to satisfy some of your permit obligations (if applicable).
6. The annual reports shall be submitted to the following email and office addresses: epa.ms4annualinsp@illinois.gov.

Illinois Environmental Protection Agency
Division of Water Pollution Control
Compliance Assurance Section
Municipal Annual Inspection Report
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

PART VI. DEFINITIONS AND ACRONYMS (SEE ALSO SPECIAL CONDITIONS)

All definitions contained in Section 502 of the Clean Water Act, 40 CFR 122, and 35 Ill. Adm. Code 309 shall apply to this permit and are incorporated herein by reference. For convenience, simplified explanations of some regulatory/statutory definitions have been provided, but in the event of a conflict, the definition found in the statute or regulation takes precedence.

Best Management Practices (BMPs) means structural or nonstructural controls, schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. BMPs also include treatment requirements, operating procedures, and practices to control runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

BMP is an acronym for "Best Management Practices."

CFR is an acronym for "Code of Federal Regulations."

Control Measure as used in this permit, refers to any Best Management Practice or other method used to prevent or reduce storm water runoff or the discharge of pollutants to waters of the State.

CWA or The Act means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub. L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483 and Pub. L. 97-117, 33 U.S.C. 1251 et. seq.

Discharge, when used without a qualifier, refers to discharge of a pollutant as defined at 40 CFR 122.2.

Green Infrastructure means wet weather management approaches and technologies that utilize, enhance or mimic the natural hydrologic cycle processes of infiltration, evapotranspiration and reuse. Green infrastructure approaches currently in use include green roofs, trees and tree boxes, rain gardens, vegetated swales, pocket wetlands, infiltration planters, porous and permeable pavements, porous piping systems, dry wells, vegetated median strips, reforestation/revegetation, rain barrels and cisterns and protection and enhancement of riparian buffers and floodplains.

Illicit Connection means any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.

Illicit Discharge is defined at 40 CFR 122.26(b)(2) and refers to any discharge to a municipal separate storm sewer that is not composed entirely of storm water, except discharges authorized under an NPDES permit (other than the NPDES permit for discharges from the MS4) and discharges resulting from fire fighting activities.

MEP is an acronym for "Maximum Extent Practicable," the technology-based discharge standard for Municipal Separate Storm Sewer Systems to reduce pollutants in storm water discharges that was established by CWA Section 402(p). A discussion of MEP as it applies to small MS4s is found at 40 CFR 122.34.

MS4 is an acronym for "Municipal Separate Storm Sewer System" and is used to refer to a Large, Medium, or Small Municipal Separate Storm Sewer System (e.g. "the Dallas MS4"). The term is used to refer to either the system operated by a single entity or a group of systems within an area that are operated by multiple entities (e.g., the Houston MS4 includes MS4s operated by the city of Houston, the Texas Department of Transportation, the Harris County Flood Control District, Harris County, and others).

Municipal Separate Storm Sewer is defined at 40 CFR 122.26(b)(8) and means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA that discharges to waters of the United States; (ii) Designed or used for collecting or conveying storm water; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

NOI is an acronym for "Notice of Intent" to be covered by this permit and is the mechanism used to "register" for coverage under a general permit.

NPDES is an acronym for "National Pollutant Discharge Elimination System."

Outfall is defined at 40 CFR 122.26(b)(9) and means a point source as defined by 40 CFR 122.2 at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

Owner or Operator is defined at 40 CFR 122.2 and means the owner or operator of any "facility or activity" subject to regulation under the NPDES program.

Permitting Authority means the Illinois EPA.

Point Source is defined at 40 CFR 122.2 and means any discernable, confined and discrete conveyance, including but not limited to, any pipe, ditch, channel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

Qualifying Local Program is defined at 40 CFR 122.34(c) and means a local, state, or Tribal municipal storm water management program that imposes, at a minimum, the relevant requirements of paragraph (b) of Section 122.34.

Small Municipal Separate Storm Sewer System is defined at 40 CFR 122.26(b)(16) and refers to all separate storm sewers that are owned or operated by the United States, a State [sic], city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State [sic] law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA that discharges to waters of the United States, but is not defined as "large" or "medium" municipal separate storm sewer system. This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

Storm Water is defined at 40 CFR 122.26(b)(13) and means storm water runoff, snowmelt runoff, and surface runoff and drainage.

Storm Water Management Program (SWMP) refers to a comprehensive program to manage the quality of storm water discharged from the municipal separate storm sewer system.

SWMP is an acronym for "Storm Water Management Program."

TMDL is an acronym for "Total Maximum Daily Load."

Waters (also referred to as waters of the state or receiving water) is defined at Section 301.440 of Title 35: Subtitle C: Chapter I of the Illinois Pollution Control Board Regulations and means all accumulations of water, surface and underground, natural, and artificial, public and private, or parts thereof, which are wholly or partially within, flow through, or border upon the State of Illinois, except that sewers and treatment works are not included except as specially mentioned; provided, that nothing herein contained shall authorize the use of natural or otherwise protected waters as sewers or treatment works except that in-stream aeration under Agency permit is allowable.

"You" and "Your" as used in this permit is intended to refer to the permittee, the operator, or the discharger as the context indicates and that party's responsibilities (e.g., the city, the country, the flood control district, the U.S. Air Force, etc.).

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**Attachment H
Standard Conditions
Definitions**

Act means the Illinois Environmental Protection Act, 415 ILCS 5 as Amended.

Agency means the Illinois Environmental Protection Agency.

Board means the Illinois Pollution Control Board.

Clean Water Act (formerly referred to as the Federal Water Pollution Control Act) means Pub. L. 92-500, as amended, 33 U.S.C. 1251 et seq.

NPDES (National Pollutant Discharge Elimination System) means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318 and 405 of the Clean Water Act.

USEPA means the United States Environmental Protection Agency.

Daily Discharge means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurements, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

Maximum Daily Discharge Limitation (daily maximum) means the highest allowable daily discharge.

Average Monthly Discharge Limitation (30 day average) means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Discharge Limitation (7 day average) means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Aliquot means a sample of specified volume used to make up a total composite sample.

Grab Sample means an individual sample of at least 100 milliliters collected at a randomly-selected time over a period not exceeding 15 minutes.

24 Hour Composite Sample means a combination of at least 8 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24-hour period.

8 Hour Composite Sample means a combination of at least 3 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over an 8-hour period.

Flow Proportional Composite Sample means a combination of sample aliquots of at least 100 milliliters collected at periodic intervals such that either the time interval between each aliquot or the volume of each aliquot is proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot.

- (1) **Duty to comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or for denial of a permit renewal application. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.
- (2) **Duty to reapply.** If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. If the permittee submits a proper application as required by the Agency no later than 180 days prior to the expiration date, this permit shall continue in full force and effect until the final Agency decision on the application has been made.
- (3) **Need to halt or reduce activity not a defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- (4) **Duty to mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
- (5) **Proper operation and maintenance.** The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up, or auxiliary facilities, or similar systems **only** when necessary to achieve compliance with the conditions of the permit.
- (6) **Permit actions.** This permit may be modified, revoked and reissued, or terminated for cause by the Agency pursuant to 40 CFR 122.62. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- (7) **Property rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.
- (8) **Duty to provide information.** The permittee shall furnish to the Agency within a reasonable time, any information which the Agency may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with the permit. The permittee shall also furnish to the Agency, upon request, copies of records required to be kept by this permit.
- (9) **Inspection and entry.** The permittee shall allow an authorized representative of the Agency, upon the presentation of credentials and other documents as may be required by law, to:
 - (a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
 - (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
 - (d) Sample or monitor at reasonable times, for the purpose of assuring permit compliance, or as otherwise authorized by the Act, any substances or parameters at any location.
- (10) **Monitoring and records.**
 - (a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
 - (b) The permittee shall retain records of all monitoring information, including all calibration and maintenance records, and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of this permit, measurement, report or application. This period may be extended by request of the Agency at any time.
 - (c) Records of monitoring information shall include:
 - (1) The date, exact place, and time of sampling or measurements;
 - (2) The individual(s) who performed the sampling or measurements;
 - (3) The date(s) analyses were performed;
 - (4) The individual(s) who performed the analyses;
 - (5) The analytical techniques or methods used; and
 - (6) The results of such analyses.
 - (d) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit. Where no test procedure under 40 CFR Part 136 has been approved, the permittee must submit to the Agency a test method for approval. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to ensure accuracy of measurements.
- (11) **Signatory requirement.** All applications, reports or information submitted to the Agency shall be signed and certified.
 - (a) **Application.** All permit applications shall be signed as follows:
 - (1) **For a corporation:** by a principal executive officer of at least the level of vice president or a person or position having overall responsibility for environmental matters for the corporation;
 - (2) **For a partnership or sole proprietorship:** by a general partner or the proprietor, respectively; or

- (3) For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official.
- (b) **Reports.** All reports required by permits, or other information requested by the Agency shall be signed by a person described in paragraph (a) or by a duly authorized representative of that person. A person is a duly authorized representative only if:
- (1) The authorization is made in writing by a person described in paragraph (a); and
- (c) **Changes of Authorization.** If an authorization under (b) is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of (b) must be submitted to the Agency prior to or together with any reports, information, or applications to be signed by an authorized representative.
- (12) **Reporting requirements.**
- (a) **Planned changes.** The permittee shall give notice to the Agency as soon as possible of any planned physical alterations or additions to the permitted facility.
- (b) **Anticipated noncompliance.** The permittee shall give advance notice to the Agency of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- (c) **Compliance schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.
- (d) **Monitoring reports.** Monitoring results shall be reported at the intervals specified elsewhere in this permit.
- (1) Monitoring results must be reported on a Discharge Monitoring Report (DMR).
- (2) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR 136 or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.
- (3) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Agency in the permit.
- (e) **Twenty-four hour reporting.** The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and time; and if the noncompliance has not been corrected, the anticipated time it is expected to continue, and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The following shall be included as information which must be reported within 24 hours:
- (1) Any unanticipated bypass which exceeds any effluent limitation in the permit;
- (2) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Agency in the permit to be reported within 24 hours.
- The Agency may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.
- (f) **Other noncompliance.** The permittee shall report all instances of noncompliance not reported under paragraphs (12)(c), (d), or (e), at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (12)(e).
- (g) **Other information.** Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to the Agency, it shall promptly submit such facts or information.
- (13) **Transfer of permits.** A permit may be automatically transferred to a new permittee if:
- (a) The current permittee notifies the Agency at least 30 days in advance of the proposed transfer date:
- (b) The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage and liability between the current and new permittees; and
- (c) The Agency does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement.
- (2) The authorization specifies either an individual or a position responsible for the overall operation of the facility, from which the discharge originates, such as a plant manager, superintendent or person of equivalent responsibility; and
- (3) The written authorization is submitted to the Agency.
- (14) All manufacturing, commercial, mining, and silvicultural dischargers must notify the Agency as soon as they know or have reason to believe:
- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant identified under Section 307 of the Clean Water Act which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:
- (1) One hundred micrograms per liter (100 ug/l);
- (2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6 dinitrophenol; and one milligram per liter (1 mg/l) for antimony.
- (3) Five (5) times the maximum concentration value reported for that pollutant in the NPDES permit application; or
- (4) The level established by the Agency in this permit.
- (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the NPDES permit application.
- (15) All Publicly Owned Treatment Works (POTWs) must provide adequate notice to the Agency of the following:
- (a) Any new introduction of pollutants into that POTW from an indirect discharge which would be subject to Sections 301 or 306 of the Clean Water Act if it were directly discharging those pollutants; and
- (b) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
- (c) For purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.
- (16) If the permit is issued to a publicly owned or publicly regulated treatment works, the permittee shall require any industrial user of such treatment works to comply with federal requirements concerning:
- (a) User charges pursuant to Section 204(b) of the Clean Water Act, and applicable regulations appearing in 40 CFR 35;
- (b) Toxic pollutant effluent standards and pretreatment standards pursuant to Section 307 of the Clean Water Act; and
- (c) Inspection, monitoring and entry pursuant to Section 308 of the Clean Water Act.
- (17) If an applicable standard or limitation is promulgated under Section 301(b)(2)(C) and (D), 304(b)(2), or 307(a)(2) and that effluent standard or limitation is more stringent than any effluent limitation in the permit, or controls a pollutant not limited in the permit, the permit shall be promptly modified or revoked, and reissued to conform to that effluent standard or limitation.
- (18) Any authorization to construct issued to the permittee pursuant to 35 Ill. Adm. Code 309.154 is hereby incorporated by reference as a condition of this permit.
- (19) The permittee shall not make any false statement, representation or certification in any application, record, report, plan or other document submitted to the Agency or the USEPA, or required to be maintained under this permit.
- (20) The Clean Water Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act is subject to a civil penalty not to exceed \$10,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing Sections 301, 302, 306, 307, or 308 of the Clean Water Act is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than one year, or both.
- (21) The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under permit shall, upon conviction, be punished by a fine of not more than \$10,000 per

violation, or by imprisonment for not more than 6 months per violation, or by both.

- (22) The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit shall, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.
- (23) Collected screening, slurries, sludges, and other solids shall be disposed of in such a manner as to prevent entry of those wastes (or runoff from the wastes) into waters of the State. The proper authorization for such disposal shall be obtained from the Agency and is incorporated as part hereof by reference.
- (24) In case of conflict between these standard conditions and any other condition(s) included in this permit, the other condition(s) shall govern.
- (25) The permittee shall comply with, in addition to the requirements of the permit, all applicable provisions of 35 Ill. Adm. Code, Subtitle C, Subtitle D, Subtitle E, and all applicable orders of the Board.
- (26) The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit is held invalid, the remaining provisions of this permit shall continue in full force and effect.

(Rev.6-1-2007)

5.17 Bibliography and References

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